EXHIBIT 2

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

GEORGIA FIREFIGHTERS' PENSION FUND, Individually and on Behalf of All Others Similarly Situated,	:	
Plaintiffs,	:	
	:	Civil Action No. 4:20-cv-00576
v.	:	
ANADARKO PETROLEUM CORPORATION, R.A. WALKER, ROBERT G. GWIN, ROBERT P. DANIELS, and ERNEST A. LEYENDECKER, III,	:	
Defendants.	:	

EXPERT REBUTTAL REPORT OF ALLEN FERRELL, PH.D.
CONFIDENTIAL
January 25, 2023

Exhibit
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I. Qualifications

1. I am an economist and the Greenfield Professor of Securities Law at Harvard Law School. I received a Ph.D. in economics from the Massachusetts Institute of Technology with fields in econometrics and finance and a J.D. from Harvard Law School. My Ph.D. dissertation concerned the relationship between stock prices and financial disclosures. After law school I clerked for Judge Silberman of the United States Court of Appeals for the D.C. Circuit and for Justice Kennedy of the Supreme Court of the United States.

2. I am also a faculty associate at the Kennedy School of Government at Harvard, a fellow at Columbia University's Program on the Law and Economics of Capital Markets, a research associate at the European Corporate Governance Institute, a research associate at the National Bureau of Economic Research, and a visiting professor at Stanford. I formerly was a member of the Board of Economic Advisors to the Financial Industry Regulatory Authority ("FINRA"), an academic fellow at FINRA, Chairperson of Harvard's Advisory Committee on Shareholder Responsibility (which was responsible for advising the Harvard Corporation on how to vote shares held by its endowment), the ABA Task Force on Corporate Governance, American Law Institute Project on the Application of U.S. Financial Regulations to Foreign Firms and Cross-Border Transactions, and an executive member of the American Law School section on securities regulation.

3. I have testified before the U.S. Senate Subcommittee on Securities, Insurance, and Investment and presented to, among others, the Securities and Exchange Commission ("SEC"), the World Bank, the International Monetary Fund, the Structured Products Association, and the National Bureau of Economic Research. I have published approximately 30 articles in leading law and finance journals. I have also been an expert witness in a variety of securities matters. My testimony in the last five years and academic work are summarized on my curriculum vitae, which is attached hereto as **Appendix 1**.

4. I have been assisted by Compass Lexecon staff in this matter. My analyses, opinions, and conclusions are based solely on the work performed by me, and those under my supervision, through the date of this report. I am being compensated for my work on this matter at an hourly rate of $1,350, including for any testimony I may provide in this matter. I receive

other compensation from Compass Lexecon based on a portion of staff billings. My compensation is not contingent upon my opinions and conclusions, or the outcome of this matter.

5. The materials I have considered are listed in **Appendix 2**.

6. This report is subject to change or modification should additional relevant information become available which bears on the analysis, opinions, or conclusions contained herein. I may also seek to respond to opinions or analyses proffered by other experts. I further reserve the right to amend or supplement this report on the instruction of counsel or as a result of any motion or court order that may impact the nature or scope of claims and issues in this litigation. I may also prepare illustrative exhibits based on the contents of this report if I am called upon to testify at trial.

II. Background

7. Anadarko Petroleum Corporation ("Anadarko" or the "Company") was one of "the world's largest independent exploration and production companies."[1] As of May 2, 2017, Anadarko had a market capitalization (i.e., Anadarko share price multiplied by its shares outstanding) of $31 billion.[2] The Company also reported revenues of $7.9 billion in 2016 and assets of $45 billion as of March 31, 2017.[3]

8. As of the end of 2016, Anadarko had a large portfolio of assets. It had U.S. onshore assets in "the lower 48 states and Alaska, … where the Company operate[d] approximately 12,700 wells and own[ed] interests in approximately 3,500 nonoperated wells."[4] Anadarko also had exploration and production activities internationally, including in Algeria, Ghana, Mozambique, Colombia, and Côte d'Ivoire.[5] In addition, as of December 31, 2016,

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[1] Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at p. 4.

[2] ©2021 Center for Research in Security Prices (CRSP), The University of Chicago Booth School of Business.

[3] Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at p. 86 & Anadarko Petroleum Corporation, Form 10-Q, March 31, 2017, at p. 5.

[4] Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at pp. 4 & 7.

[5] Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at p. 4.

"Anadarko own[ed] an average working interest of 70% in 327 blocks in the Gulf of Mexico, operat[ed] 10 active floating platforms, and h[eld] interests in 39 fields."[6]

9. One of those 39 fields in the Gulf of Mexico was Shenandoah.[7] On February 4, 2009, Anadarko announced that "[t]he Shenandoah discovery well … encountered net oil pay" and that "Anadarko and the co-owners of the discovery are evaluating the well results and the next steps toward future appraisal activity."[8] Following this discovery, Anadarko subsequently drilled five appraisal wells in Shenandoah. Anadarko began drilling Shenandoah-2 ("Shen-2") in 2Q 2012,[9] Shenandoah-3 ("Shen-3") in 2Q 2014,[10] Shenandoah-4 ("Shen-4") in 2Q 2015,[11] Shenandoah-5 ("Shen-5") in 1Q 2016, and Shenandoah-6 ("Shen-6") in 4Q 2016.[12]

10. Anadarko was partnered with other exploration and production companies in the Shenandoah project. As of the start of the Class Period (i.e., February 20, 2015 through May 2,2017),[13] Anadarko had a working interest of 30%, while its partners ConocoPhillips, Cobalt, Marathon Oil, and Venari Resources had working interests of 30%, 20%, 10%, and 10%, respectively.[14] On July 27, 2016, it was announced that Anadarko had increased its working interest from 30% to 33%.[15] As of that date, ConocoPhillips, Cobalt, and Venari Resources had

[6] Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at p. 9.

[7] Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at p. 9.

[8] "Anadarko Announces Another Deepwater Gulf of Mexico Discovery," *Business Wire*, February 4, 2009 (7:28 AM).

All timestamps throughout the report are in Eastern time unless otherwise specified.

[9] "Cobalt International Energy, Inc. Announces Second Quarter 2012 Results and Successful Cameia #2 Appraisal Well Offshore Angola," *Business Wire*, July 31, 2012.

[10] Anadarko Petroleum Corporation, Form 10-K, December 31, 2014, at p. 9.

[11] Anadarko Petroleum Corporation, Form 10-K, December 31, 2015, at p. 10.

[12] Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at p. 11.

[13] Amended Complaint for Violations of the Federal Securities Laws, No. 4:20-cv-00576, U.S. District Court, Southern District of Texas, Houston Division, filed August 17, 2020 ("Complaint"), ¶ 1.

[14] "Anadarko Petroleum, 4 Partners Announce Gulf of Mexico Discovery," *Dow Jones News Service*, March 19, 2013 (5:26 PM).

[15] "Venari Resources Announces Increased Ownership in Deepwater Shenandoah Field and Successful Results from Latest Appraisal Well," *PRNewswire*, July 27, 2016 (7:00 AM).

working interests of 30%, 20%, and 17%, respectively.[16] The partners maintained the above working interests in Shenandoah through the end of the Class Period.

11. On May 2, 2017, after the market close, Anadarko announced the suspension of appraisal activity in Shenandoah in its 1Q 2017 earnings press release and 1Q 2017 Form 10-Q. Specifically, on May 2, 2017 at 4:16 PM, Anadarko issued a press release noting that it "recently completed drilling operations at the Shenandoah-6 appraisal and sidetrack well, which did not encounter the oil-water contact in the eastern portion of the field" and that the "company has currently suspended appraisal activity in the field while it evaluates the path forward."[17] Ten minutes later, at 4:26 PM, Anadarko filed its 1Q 2017 Form 10-Q with the SEC.[18] In that Form 10-Q, Anadarko disclosed that "[d]uring the three months ended March 31, 2017, the Company expensed suspended exploratory well costs of $435 million related to the Shenandoah project in the Gulf of Mexico" and that it would recognize $467 million of impairments related to the Shenandoah project.[19]

12. In addition to the above, after market close on May 2, 2017, other news related to Anadarko was also disclosed. In the same press release and Form 10-Q, Anadarko also reported a net loss attributable to common stockholders of $318 million for 1Q 2017.[20] Moreover, Anadarko disclosed 2Q 2017 volume guidance that was below analysts' expectations.[21]

13. Furthermore, shortly after the market close at 4:03 PM on May 2, 2017, Firestone, Colorado fire officials began a press conference that disclosed for the first time the results of the

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[16] "Venari Resources Announces Increased Ownership in Deepwater Shenandoah Field and Successful Results from Latest Appraisal Well," *PRNewswire*, July 27, 2016 (7:00 AM).

[17] "Anadarko Announces First-Quarter 2017 Results," *PRNewswire*, May 2, 2017 (4:16 PM).

[18] Timestamp per SEC.gov, https://www.sec.gov/Archives/edgar/data/0000773910/000077391017000033/0000773910-17-000033-index.htm (last accessed January 25, 2023).

[19] Anadarko Petroleum Corporation, Form 10-Q, March 31, 2017, at pp. 13 & 37.

[20] "Anadarko Announces First-Quarter 2017 Results," *PRNewswire*, May 2, 2017 (4:16 PM) & Anadarko Petroleum Corporation, Form 10-Q, March 31, 2017, at p. 3.

[21] *See, e.g.,* "1Q17 Flash: Unfortunately, It's Déjà Vu All Over Again; Stock Reaction Mixed – ALERT," J.P. Morgan, May 2, 2017, FIAM-ANAD-009291, at 9291; "Results Overshadowed by a Colorado Home Explosion," Barclays, May 4, 2017, AtSos_00000656, at 0658.

Firestone, Colorado fire officials' investigation as to the cause of the fatal house explosion on April 17, 2017.[22] Reporters disseminated the information on the results of the fire officials' investigation in real time.[23] The fire investigators found that the explosion was caused by odorless gas seeping from a cut-off underground pipeline running from an Anadarko well into the house.[24] Soon after the firefighters released their report, then Colorado Governor John Hickenlooper ordered oil and gas companies statewide to inspect and pressure-test oil and gas flowlines within 1,000 feet of occupied buildings.[25] In response to this news on May 2, 2017, at 5:18 PM, Anadarko issued a press release on the Firestone incident stating that it would "continue to cooperate fully with all ongoing investigations" and that it would "continue to work with the Colorado Oil and Gas Conservation Commission (COGCC) on additional steps or actions the agency deems necessary."[26] Anadarko was the largest oil and gas producer in

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[22] *See, e.g.,* Denver 7 News tweet at 4:03 PM ("WATCH LIVE: Officials are providing an update on last month's home explosion in Firestone."). [@DenverChannel]. (2017, May 2, 4:03 PM); "Lots of Unknowns, But Two Key Facts from DJ Basin Incident – ALERT," J.P. Morgan, April 26, 2017. *See also*, "Colorado Uncertainty," Morgan Stanley, April 27, 2017 ("The event is under an investigation by authorities and no conclusion has been reached as to its cause."); "APC Reports Downtime in Wattenberg," Capital One Securities, April 27, 2017 ("The cause of the explosion is still unknown."); and "APC Colorado Shut-Ins," Evercore ISI, April 27, 2017 ("Unknowns remain in regards to the causes and implications of the proactive announcement by APC and the event in question.").

[23] *See, e.g.,* Denver 7 News tweet at 4:11 PM ("Officials: Firestone home explosion caused by gas leaking into home from abandoned flow line.") [@DenverChannel]. (2017, May 2, 4:11 PM); and reporter Kevin Vaughn tweet at 4:09 PM ("Cause of deadly Firestone home explosion was a cut line to an oil and gas well.") [@writerkev]. (2017, May 2, 4:09 PM).

[24] "Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline," *Denver Post*, May 2, 2017 (4:51 PM) ("Fire investigators found a 1-inch diameter black plastic pipeline running from an Anadarko Petroleum well near the house that had been cut when a tank battery was moved before the Oak Meadows subdivision was built, Poszywak said. That pipeline leaked the gas from a point 6 feet from the southeast corner of the house at 6312 Twilight Ave. in Firestone. Investigators said they found the gas valve at the Anadarko well in the 'on' position.")

[25] "Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline," *Denver Post*, May 2, 2017 (4:51 PM).

[26] "Anadarko Issues Statement Regarding Firestone Accident," *PRNewswire*, May 2, 2017 (5:18 PM).

Colorado at this time.[27] The prices of other oil and gas firms that operated in Colorado also fell significantly following these announcements.[28]

III. Plaintiffs' Allegations and Steinholt Report

14. Plaintiffs filed this lawsuit on behalf of purchasers of Anadarko Petroleum Corporation common stock during the Class Period, alleging that, "[l]eading up to and throughout the Class Period, Defendants engaged in a fraudulent scheme through various means and methods that operated as a deception on the investing public concerning the size and commercial viability of the Shenandoah project and a whistleblower complaint about Defendants' multi-billion dollar securities fraud."[29] Plaintiffs claim that the "lack of commercial viability of the Shenandoah project was first revealed to the market in Anadarko's 1Q 2017 Form 10-Q," which was filed after market close on May 2, 2017.[30] Specifically, Plaintiffs claim that Shenandoah's "lack of commercial viability" was revealed to the market when Anadarko disclosed "$435 million in expensed suspended exploratory well costs and a $467 million impairment related to the Shenandoah project."[31]

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[27] "APC Colorado Shut-ins," Evercore ISI, April 27, 2017 (noting that Anadarko was "the largest oil and gas producer in Colorado.").

[28] *See infra* ¶ 44.

[29] Complaint, ¶ 29.

[30] Complaint, ¶ 152.

[31] Complaint, ¶ 152.

15. On November 9, 2022, Plaintiffs submitted the Expert Report of Bjorn I. Steinholt, CFA ("Steinholt Report").[32] In that report, Mr. Steinholt presents his opinions on materiality,[33] loss causation, and damages. In particular, he concludes that:

a. "Defendants' alleged scheme and misleading statements contained, or omitted, information that a reasonable investor would have wanted to consider prior to making an investment decision, causing Anadarko's common stock to trade at artificially inflated prices during the Class Period;"[34]

b. "When the alleged truth was publicly disclosed, Anadarko's stock price declined, causing Class members to suffer economic damages as a result of the alleged fraud (i.e., the disclosure of the alleged truth);"[35] and

c. "The event study framework … can be used to quantify damages in this case. …[T]he estimated dollar inflation per share is: [f]rom February 21, 2015 through July 26, 2016: $1.75 per share; [f]rom July 27, 2016 through May 2, 2017: $1.92 per share."[36]

IV. Assignment and Summary of Opinions

16. I was asked by Cravath, Swaine & Moore LLP, counsel for Defendants, to respond to the materiality, loss causation, and damages opinions offered by Mr. Steinholt, including assessing whether Mr. Steinholt relied on sound economic principles and proper statistical analyses to reach his opinions. Based on my review of the materials in **Appendix 2**, my skills, and my professional and academic experience, I find that Mr. Steinholt fails to address basic economic issues and use proper statistical analyses. Therefore, it is my professional

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[32] Mr. Steinholt also filed two class certification reports, which he incorporated by reference in his current report. *See* Steinholt Report, fn. 1 and Steinholt Report, ¶ 7.

In response to Mr. Steinholt's Class Cert. Report, dated October 1, 2021 ("Steinholt Class Cert. Report"). I filed the Expert Report of Allen Ferrell, Ph.D., December 10, 2021 ("Ferrell December 2021 Report"). I also filed the Report of Allen Ferrell, Ph.D. in Support of Defendants' *Daubert* Motion, April 1, 2022 ("Ferrell April 2022 Report") and the Reply Report of Allen Ferrell, Ph.D. in Support of Defendants' *Daubert* Motion, May 2, 2022 ("Ferrell May 2022 Report"). I hereby incorporate by reference these three reports.

[33] I understand that the term "materiality" is a legal concept. Economists use the term "value-relevant" to refer to new value-relevant information that impacts investors' assessment of the present value of the company's expected future cash flows.

[34] Steinholt Report, ¶ 14(b), ¶ 100.

[35] Steinholt Report, ¶ 14(c), ¶¶ 50-100.

[36] Steinholt Report, ¶ 14(d), ¶¶ 101-107.

opinion that Mr. Steinholt's opinions are fundamentally flawed and unreliable, rendering his per-share damages estimates meaningless. Specifically:

a. Mr. Steinholt's opinion that the alleged misstatements were material is flawed.
    i. Mr. Steinholt did not analyze the alleged misstatements and, therefore, cannot establish that these alleged misstatements constituted new value-relevant information.
    ii. Mr. Steinholt's event study analysis on the alleged corrective disclosure date is fundamentally flawed and unreliable and, therefore, his abnormal return estimate is unreliable.
    iii. Mr. Steinholt confuses the issue of whether Shenandoah is an "economically significant project" with the value-relevance of the alleged misstatements.
b. Mr. Steinholt fails to reliably demonstrate that Anadarko's price decline on May 3, 2017 was caused by the correction of the alleged misstatements.
    i. Mr. Steinholt does not establish a match between the alleged corrective disclosure and the alleged misrepresentations.
    ii. Mr. Steinholt's analysis cannot reliably attribute any portion of the price decline in Anadarko's stock price on May 3, 2017 to the alleged corrective disclosure.
c. Mr. Steinholt has not demonstrated that damages can be reliably estimated in this case.

V. Mr. Steinholt's Opinion That the Alleged Misstatements Were Material Is Flawed

17. Mr. Steinholt opines that "Defendants' alleged scheme and misleading statements contained, or omitted, information that a reasonable investor would have wanted to consider prior to making an investment decision, causing Anadarko's common stock to trade at artificially inflated prices during the Class Period."[37] He bases his materiality opinion on the following claims:

a. "The economic importance of the Shenandoah is … demonstrated by Anadarko's statistically significant stock price decline following the suspension of Shenandoah appraisal activities."[38]

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[37] Steinholt Report, ¶ 14(b).

[38] Steinholt Report, ¶ 49.

b. "[L]eading up to and during the Class Period, the Shenandoah was viewed as an economically significant project for Anadarko."[39]

i. "If successfully sanctioned … the value of the Shenandoah could be … $5 per share … or $7 per share."[40]

ii. "Anadarko valued the Shenandoah at $893 million before the suspension of appraisal activities"[41] and Shenandoah's market value must be at least as much as its book value since book value "is generally viewed as a conservative measure of value."[42]

18. As I explain below, Mr. Steinholt's claims are fundamentally flawed and unreliable, which render his materiality opinion fundamentally flawed and unreliable as well.

A. Mr. Steinholt Did Not Analyze the Alleged Misstatements and, Therefore, Cannot Establish That These Alleged Misstatements Constituted New Value-Relevant Information

19. Plaintiffs allege that Defendants made misstatements on 21 dates during the Class Period.[43] To the extent Plaintiffs allege that Defendants made false and misleading statements during the Class Period that contained new value-relevant information (and hence "material" in Mr. Steinholt's opinion), basic economic principles would imply that the stock price would have increased, in a statistically significant manner, on those 21 dates. To this end, Mr. Steinholt should have analyzed the alleged misstatements to establish whether these alleged misstatements created inflation or increased inflation by eliciting an increase in Anadarko's stock price (i.e., an affirmative misstatement). Mr. Steinholt, however, does not analyze any of the alleged misstatements.[44] As a matter of fact, he conceded in his deposition that the alleged misstatements did not increase the inflation.[45] Instead, Mr. Steinholt relies on the so-called "price maintenance

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[39] Steinholt Report, ¶ 49.

[40] Steinholt Report, ¶ 49.

[41] Steinholt Report, ¶ 49.

[42] Steinholt Report, ¶ 49.

[43] *See* **Appendix 4**.

[44] Deposition of Bjorn Steinholt, December 21, 2022 ("Steinholt Dep. Tr."), 70:22-71-5 ("Q: … Did you perform some kind of event study analysis with respect to each of those 21 alleged misstatements? A: The initial analysis that I did for market efficiency did look at each day. But I did not – I do not recall whether or not any of those days had a statistically significant price increase.").

[45] Steinholt Dep. Tr., 70:13-16 ("Q. Okay. In your opinion, did those alleged misstatements add to the inflation in the price? A. Add to the inflation, no.").

theory," stating that "given the allegation in this particular case, I wouldn't necessarily expect there to be any increase because it relates to information that was concealed throughout the class period and then was disclosed at the very end of the class period."[46] But, Mr. Steinholt fails to undertake any analysis to establish an economic basis for his "price maintenance theory."[47]

20. In contrast, I analyzed the 21 alleged misstatement dates to determine whether the information disclosed on those dates created inflation by eliciting an increase in Anadarko's stock price. To perform this task, I use a standard and widely accepted technique used by economists known as an "event study" to test whether Anadarko's stock price movement following each of the alleged misstatements was positive and statistically significant.[48] The details of my event study methodology are reported in **Appendix 3**.

21. The event study finds that, on 18 out of the 21 alleged misstatement dates, there was no statistically significant increase in Anadarko's stock price (i.e., Anadarko's stock price reaction on these dates is not statistically different from zero).[49] *See* **Appendix 4**.

22. However, even if one finds a statistically significant price movement on the alleged misstatement date from an event study, there is another crucial step that an economist must take. Suppose that an event study finds a statistically significant price movement that is contemporaneous with a public disclosure of firm-specific information. To attribute the stock price movement to the public disclosure, one must closely examine the disclosures involved. For example, if the particular disclosure at issue was simply repeating information already known to the market (i.e., stale information), a researcher could not attribute, consistent with efficient markets, an abnormal return – regardless of whether it happens to be statistically significant – to such a disclosure. Disclosures that simply repeat information already known to the market would

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[46] Steinholt Dep. Tr., 71:1-12.

[47] As shown in **§§ VI and VII**, this also means that Mr. Steinholt cannot demonstrate that the disclosure of allegedly corrective information actually corrects the alleged misstatements nor can he establish that the allegedly corrective information reveals information that could have been disclosed at the time of the alleged misstatements.

[48] *See, e.g.,* A.C. MacKinlay, 1997, "Event Studies in Economics and Finance," *Journal of Economic Literature,* Vol. 35, 13-39.

[49] Statistical significance at the 5% level is denoted by a t-statistic with an absolute value of 1.96 or greater.

not cause a revision in the company's expected future cash flows or the risks thereof and, hence, would not affect its stock price. Separately, when there are multiple pieces of information disclosed contemporaneously on a day when an event study finds a statistically significant price movement, an event study analysis alone cannot determine which piece of information was new value-relevant information. Moreover, if there are multiple pieces of new value-relevant information, an event study analysis alone cannot reliably parse the price impact of the multiple pieces of information.

23. My analysis shows that on the three dates when Anadarko's stock price did increase by a statistically significant amount, the Shenandoah disclosures on these dates were stale and, as such, assuming markets are efficient, I would not expect Anadarko's stock price to react to these Shenandoah disclosures. Moreover, the stock price increases on July 28, 2015, February 2, 2016, and March 1, 2016 were attributed to factors unrelated to Shenandoah (i.e., "confounding information"). *See* **Appendix 5**.

24. Given the above, there is no reliable economic basis to establish that the alleged misstatements contained new value-relevant information. I will now turn to the alleged corrective disclosures, i.e., the disclosures that Mr. Steinholt "understands" were omitted when the alleged misstatements were originally made.

B. Mr. Steinholt's Event Study Analysis on the Alleged Corrective Disclosure Date Is Fundamentally Flawed and Results-Driven and, Therefore, His Abnormal Return Estimate Is Unreliable

25. Mr. Steinholt claims that Shenandoah's economic importance is "demonstrated by Anadarko's statistically significant stock price decline following the suspension of Shenandoah appraisal activities."[50] To support this opinion, Mr. Steinholt performs an event study and calculates a company-specific (i.e., purportedly controlling for market and industry factors, including Colorado regulatory factors) abnormal return of -3.42%, which he finds to be statistically significant.[51] He concludes that this is "evidence that the Shenandoah disclosure

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[50] Steinholt Report, ¶ 49. *See also*, Steinholt Dep. Tr., 77:20-25.

[51] Steinholt Report, ¶ 99.

contained value-relevant information that negatively impacted Anadarko's stock price."[52] However, as I explain below, Mr. Steinholt's event study analysis is fundamentally flawed and results-driven.

26. The standard methodology for conducting an event study analysis is to use a regression model that controls for the market and industry effects in order to isolate the company-specific portion of the company's return (also called an "abnormal return"). The market and industry indices selected are intended to capture the impact on a company's stock price of regular market-wide and industry-wide related information.[53] To illustrate, value-relevant information related to oil prices is reflected in the prices of Anadarko and its industry peers on a daily basis. A regression model that includes an index of Anadarko's peers over the estimation period is then used to control for the impact of oil price changes on Anadarko stock during the event window, in addition to the impact of other industry-wide new information.

27. By contrast, the Firestone, Colorado fire news is not regular industry-wide information that could be accounted for by an industry index. It was a one-time event which did not occur until April 17, 2017; thus, its impact on Anadarko's stock price cannot be accurately captured by a regression model that uses historical (backward-looking) data during the estimation period (i.e., October 12, 2016 to May 2, 2017), as Mr. Steinholt claims.[54] During the

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Mr. Steinholt's methodology to determine Anadarko's abnormal return on May 3, 2017 appears to be ad hoc and results-driven. In this report, to control for market and industry factors, Mr. Steinholt uses the S&P 500 index and his Colorado Peer Group index, respectively. Steinholt Report, ¶¶ 38-39. Mr. Steinholt uses a different industry index in each of his three reports. Across his three reports, his estimate of the abnormal return for May 3, 2017 ranges from -3.42% to -7.97%. *See* Steinholt Report, ¶ 99 (showing abnormal return of -3.42%); Steinholt October 2021 Report, Exhibit D, at p. 14 (showing abnormal return of -7.97%) & Steinholt February 2022 Report, ¶ 46 (showing abnormal return of -3.89%). In addition, Mr. Steinholt uses different estimation periods over which to estimate the historical relationship between Anadarko's return and the market and industry indices. Across his three reports, his estimation periods range from 138 days to 252 days. *See* Steinholt Report, ¶¶ 40-41; Steinholt October 2021 Report, Exhibit D, p. 14 & backup to Steinholt February 2022 Report.

[52] Steinholt Report, ¶ 99.

[53] *See, e.g.,* D. Tabak and F. Dunbar, 2001, "Event Studies in the Courtroom," *Litigation Services Handbook,* 3rd ed., Wiley, at 19.5 ("Once the event windows have been established, the analyst next calculates the relations between the company's stock and an index or indices that proxy for outside forces such as market and industry effects. These relations will later be used to remove those market and industry effects from the price movements observed in the event window.").

[54] Steinholt Report, ¶¶ 40-41.

estimation period, the regression analysis puts equal weight on each daily observation.[55] As such, if one were to control for the impact of the Firestone, Colorado fire, one would need to have news about the Firestone, Colorado fire for a large portion of the estimation period; otherwise, the regression analysis would place a small weight on those observations and blunt the impact of the news related to the Firestone, Colorado fire on Anadarko's stock price. Here, my review of news articles shows that there were only four days during Mr. Steinholt's estimation period on which Anadarko was mentioned in news articles about the Firestone, Colorado fire.[56] Thus, if the news related to the Firestone, Colorado fire on those days were value-relevant, then such news could impact only 2.9% (i.e., 4 out of 138) of the observations in Mr. Steinholt's estimation period.[57] This indicates that the vast majority of the weight in Mr. Steinholt's estimation period is placed on overall industry effects, such as the impact of oil prices on the peers. Given the above, using the Colorado Peer Group Index cannot accurately capture the relation of Anadarko and the Colorado Peer Group with respect to news related to the Firestone, Colorado fire. Accordingly, and contrary to Mr. Steinholt's claim, using the Colorado Peer Group Index in an event study cannot accurately predict the price impact of the Firestone, Colorado fire news disclosed on May 3, 2017 on Anadarko stock.

28. Moreover, at best, the price reaction of the Colorado Peer Group Index on May 3, 2017 measures the *average* effect of the news related to Firestone, Colorado fire on the companies that operate in Colorado. However, that average effect *understates* the price reaction of that same news to Anadarko because (i) the gas leak was linked to a well owned *by Anadarko*

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[55] Ordinary least squares ("OLS") regressions, which is the type of regression Mr. Steinholt performs, "gives each observation the same weight." *See, e.g.,* J. Wooldridge, 2016, *Introductory Econometrics: A Modern Approach,* 6th ed., Cengage Learning, at 256.

[56] Based on a search of the Factiva News All Publications file for news articles that contain "Anadarko" and "Firestone" or "Colorado" in the article from April 16, 2017 through May 2, 2017.

[57] Even if we assume that there was value-relevant news related to the Firestone, Colorado fire on all trading days from April 17, 2017 (i.e., the day of the explosion in Firestone, Colorado) through May 2, 2017, then such news would impact only 8.7% (i.e., 12 out of 138) of the observations in Mr. Steinholt's estimation period.

and (ii) Anadarko was the largest oil and gas producer in Colorado at the time.[58] Therefore, Mr. Steinholt's event study would not appropriately capture the disproportionate impact on Anadarko of the Firestone, Colorado fire news.

29. While an event study cannot parse multiple pieces of confounding information that affected Anadarko's stock price, one can use the stock price movement of ConocoPhillips (if any) on May 3, 2017 to determine whether the Shenandoah news had any price impact for two reasons. First, ConocoPhillips was a partner in Shenandoah with a similar working interest to Anadarko.[59] A similar working interest implies that Anadarko and ConocoPhillips are expected to receive a similar stream of expected future cash flows from the Shenandoah project. As such, the value of any Shenandoah information would be similar for both Anadarko and ConocoPhillips. Thus, if the Shenandoah disclosure on May 3, 2017 is new value-relevant information for Anadarko, it would likewise be new value-relevant information for ConocoPhillips. Second, I did not find any confounding information that could have affected ConocoPhillips's stock price on May 3, 2017.[60] Therefore, the price reaction (if any) of ConocoPhillips to the Shenandoah news would be reflective of the price impact of that news on Anadarko's stock price.

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[58] "Colorado Explosion in April Blamed on Leak Near Anadarko Well," *Dow Jones Institutional News*, May 2, 2017 (7:01 PM) (explaining that the gas leak came from "an abandoned line that remained attached to a nearby well owned by Anadarko") & "APC Colorado Shut-ins," Evercore ISI, April 27, 2017 (noting that Anadarko was "the largest oil and gas producer in Colorado").

[59] From the start of the Class Period (February 21, 2015) to July 26, 2016, Anadarko and ConocoPhillips had the same 30% working interest in Shenandoah. After market close on July 26, 2016, Anadarko increased its working interest in Shenandoah to 33%. Thus, from July 27, 2016 through the end of the Class Period (May 2, 2017), Anadarko's working interest in Shenandoah increased to 33%, while ConocoPhillips maintained its 30% working interest in Shenandoah. *See* ConocoPhillips, Form 10-K, December 31, 2014, at p. 8 & ConocoPhillips, Form 10-K, December 31, 2016, at p. 7 & Steinholt Report, ¶ 106.

[60] I searched "All News" Factiva and Bloomberg for "ConocoPhillips" on May 3, 2017, and the only articles that contained "ConocoPhillips" in them did not have any new or company-specific value-relevant information. *See* "Rising Interest Rates May Trip Oil Companies," Bloomberg, May 3, 2017; "Earnings improve for ConocoPhillips, which says it has left the Point Thomson gas field," Alaska Dispatch News, May 3, 2017.

30. To test ConocoPhillips's stock price reaction on May 3, 2017, I used an event study.[61] As mentioned previously, an event study determines whether the price movement of a company's stock price on a particular day can reliably be distinguished from zero (i.e., if the price movement is due to the disclosure of new value-relevant information rather than the random movement of the company's stock). As **Table 1** and **Figure 1** show, the event study analysis finds no statistically significant price reaction in ConocoPhillips's stock price on May 3, 2017. This means that the value of the Shenandoah news is zero for ConocoPhillips and, accordingly, the value of the Shenandoah news would also be zero for Anadarko. Therefore, contrary to Mr. Steinholt's opinion, there is no reliable economic basis to establish that the alleged corrective disclosure constituted new value-relevant information to Anadarko.

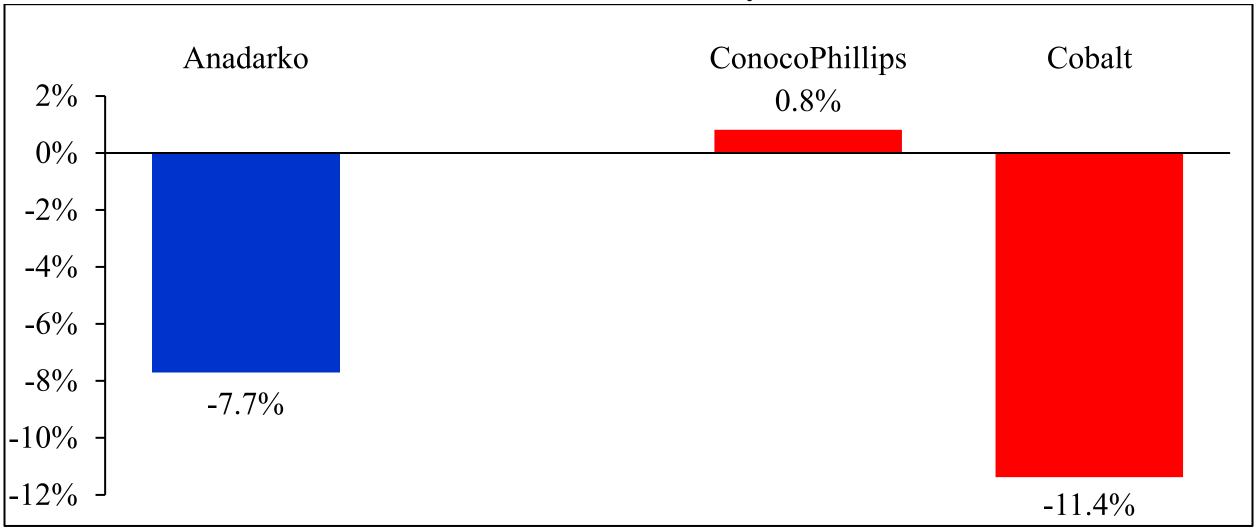
Table 1: Event Study Results
Stock Price Reaction of Anadarko, ConocoPhillips, and Cobalt on May 3, 2017

		Anadarko	ConocoPhillips	Cobalt
Raw Return	[A]	-7.69%	0.81%	-11.38%
Predicted Return(1)	[B]	0.21%	0.10%	0.12%
Abnormal Return(2)	[C]	-7.91%	0.71%	-11.26%
t-Statistic	[D]	-7.11	0.64	-2.01
Statistically Significant?(3)	[E]	Yes	No	Yes

Notes: (1) **Appendix 3**. (2) [C] = [A] – [B]. (3) Statistical significance at the 5% level is denoted by a t-statistic with an absolute value of 1.96 or greater.

[61] The details of my event study are in **Appendix 3**.

Figure 1: Event Study Results
Anadarko and Its Partners in Shenandoah
Abnormal Returns on May 3, 2017



31. Mr. Steinholt analyzes the price movement of Cobalt, but fails to analyze the ConocoPhillips price movement without explanation.[62] However, the economic evidence demonstrates that the financial health of Cobalt and Anadarko were substantially different leading up to the alleged corrective disclosure. In particular, Cobalt was experiencing near-term liquidity constraints,[63] was at risk of being delisted from the New York Stock Exchange,[64] it restructured its debt giving noteholders about 50 cents on the dollar,[65] and its ability to continue as a going concern was in doubt.[66] Anadarko was not experiencing any of these issues at that time. Moreover, Mr. Steinholt ignores that, unlike ConocoPhillips, Anadarko did not include Cobalt as part of its "peer group" with which it compared its stock price performance in its

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[62] Steinholt Report, ¶ 69.

[63] Cobalt International Energy, Inc., Form 10-K, December 31, 2016 ("Cobalt 2016 Form 10-K"), at p. 55.

[64] In its 2016 Form 10-K, Cobalt also disclosed that it was out of compliance with the New York Stock Exchange's ("NYSE") minimum share price requirement because the average closing price of its common stock had fallen below $1.00 per share over a period of 30 consecutive days, and therefore was at risk of being delisted from the NYSE. *See* Cobalt 2016 Form 10-K, at p. 55.

[65] "Cobalt International Energy Noteholders Take a Little for a Lot in Debt Exchange," *TheStreet.com*, April 26, 2017.

[66] Cobalt 2016 Form 10-K, at F-4.

Forms 10-K throughout the Class Period.[67] Given the above, although Cobalt was another partner in Shenandoah,[68] there is no reliable economic basis to assume that the stock price reaction of investors in Cobalt to news about Shenandoah is reflective of the stock price reaction of investors in Anadarko (if any) to news about Shenandoah.

C. Mr. Steinholt Confuses the Issue of Whether Shenandoah Is an "Economically Significant Project" with the Value-Relevance of the Alleged Misstatements

32. Mr. Steinholt claims that "the Shenandoah was viewed as an economically significant project for Anadarko that, in an efficient market, would be expected to significantly impact the Company's stock price."[69] However, Mr. Steinholt does not explain, let alone establish, how the economic significance of the Shenandoah project is linked to the value-relevance (in Mr. Steinholt's opinion "materiality") of the alleged misstatements or of the alleged corrective disclosure. A project being important to a company does not necessarily mean that any disclosure related to that project can likewise be assumed to be important to the company. For example, on the morning of May 2, 2017, ConocoPhillips disclosed that "[f]irst-quarter earnings were negatively impacted by $101 million of pre-tax dry hole expense, which includes the Shenandoah-6 well in the Gulf of Mexico."[70] Following this disclosure that Shenandoah-6 was a

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[67] *See* Anadarko Petroleum Corporation, Form 10-K, December 31, 2014, at p. 47 & Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at p. 51. One criteria Anadarko appears to use to identify members of its "peer group" is the company's relative size. In its 2016 Form 10-K, Anadarko noted that Murphy Oil was removed from the 2016 peer group "due to it being low in relative size," and Cobalt is much smaller than Murphy Oil. According to Capital IQ data, as of December 31, 2016, Murphy Oil had a market capitalization of $5.4 billion while Cobalt had a market capitalization of $537 million – i.e., 10% of Murphy Oil's size. As of May 2, 2017, Murphy Oil had a market capitalization of $4.5 billion while Cobalt had a market capitalization of $167 million – i.e., 4% of Murphy Oil's size. *See also* Steinholt Dep. Tr., 89:3-16, acknowledging that ConocoPhillips was mentioned as an Anadarko peer and Cobalt was not.

[68] As of May 3, 2017, Cobalt had a 20% working interest in Shenandoah. *See* Steinholt Report, ¶ 69.

[69] Steinholt Report, ¶ 49.

[70] "ConocoPhillips Reports First-Quarter 2017 Results; On Track to Deliver 2017 Operating Plan and Accelerate Value Proposition," *Business Wire*, May 2, 2017 (7:00 AM).

dry hole, Anadarko's stock price did *not* have a statistically significant price change,[71] demonstrating that not all news about Shenandoah is necessarily value-relevant.

33. Further, as explained below, Mr. Steinholt's claim that the Shenandoah project was "economically significant" to Anadarko is inconsistent with the economic evidence.

i. Mr. Steinholt Misrepresents the Value of Shenandoah, Which Investors Understood Would Not Be Sanctioned at Then-Existing Oil Prices

34. In his report, Mr. Steinholt supports this claim by stating that "[i]f successfully sanctioned … the value of the Shenandoah could be … $5 per share … or $7 per share."[72] In deposition testimony, Mr. Steinholt confirmed that the $5 to $7 per share is the "potential" value of Shenandoah and explained that "of course, if [Shenandoah is] not sanctioned, then, you know, [the value of Shenandoah] is zero."[73] However, he ignores the economic evidence that Anadarko was not going to sanction Shenandoah during the Class Period.

35. Throughout the purported Class Period, Anadarko disclosed and analysts acknowledged that, at the then-prevailing oil prices, Anadarko would not sanction (i.e., develop) Shenandoah. For example:

- On February 2, 2016, a Johnson Rice analyst stated: "Anadarko is continuing to have success with appraisal and delineation of the massive Shenandoah discovery in the Gulf of Mexico, but at the same time the company would not develop the resources at $30 WTI, given the cost involved."[74] Also, a UBS analyst stated "[Anadarko] will not

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[71] Mr. Steinholt acknowledged in deposition testimony that ConocoPhillips also did not have a statistically significant price decline on May 2, 2017. Deposition of Bjorn Steinholt, November 17, 2021 ("Steinholt Class Cert Dep. Tr."), 16:3-23 ("Q. Right, but just sitting here today, do you know what the Conoco Philips [*sic*] stock price rection was on the day of the Anadarko corrective disclosure? … A … I don't think there was a statistically significant price decline on either of those two days … when Conoco Philips [*sic*] announced their first quarter earnings or when Anadarko announced their first quarter earnings.").

[72] Steinholt Report, ¶ 49.

[73] Steinholt Dep. Tr., 111:19-24.

[74] "Oil Volumes Flat in 2016, $1B+ in Asset Sales Forthcoming," Johnson Rice & Company, February 2, 2016, APC-01167444, at 7445.

develop or sanction Shenandoah in the deepwater GoM in a ~$30/Bbl oil price environment."[75]

- On April 12, 2016, a Wellington analyst (i.e., a buy-side analyst) noted: "The operator [Anadarko] is on record saying they wouldn't sanction [Shenandoah] until oil was back in the $70's given where costs are today."[76]
- On July 28, 2016, a Simmons & Company analyst noted that "[Final Investment Decision] is not imminent. APC has much more appraisal work ahead and wants to drive project costs lower to enhance well economics."[77]
- On September 8, 2016, a Simmons & Company analyst stated "APC remains very optimistic about the long-term potential for Shenandoah. However, they are not going to sanction this project at current oil prices."[78]
- On November 17, 2016, Al Walker (Anadarko's then-Chairman, President, and CEO) stated: "I do believe today it will take more than $70, most likely, before we see greenfield projects in deepwater basins around the world."[79]
- On March 3, 2017, a Morgan Stanley analyst stated that "[s]anction during 2017 remains unlikely given technically challenging Lower Tertiary project likely requires >$60/bbl crude to be viable."[80]
- On March 24, 2017, Goldman Sachs analysts reported that "[Anadarko] indicated that major Gulf of Mexico greenfield projects like Shenandoah (our target assumes $1/shr) is unlikely to get final approval in a $50-$55 per bbl environment."[81]

36. The above shows that market participants understood the relation between oil prices and the decision of Anadarko to sanction Shenandoah. Thus, oil prices, which are observable, are a key factor that market participants need to form a view of Shenandoah's

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[75] "Preliminary 2016 Volume Guidance More Resilient Than Expectations; Raising 2016-17 CFPS Estimates," UBS, February 2, 2016, UBS_0001020, at 1020.

[76] Email from Mark Viviano at Wellington dated April 12, 2016, Subject: "Marathon (MRO,1,$8B): great WY sale but negative Shenandoah comp for APC/CIE, WMC-APC-0000317, at 0321.

[77] "Q2'16 Earnings Review: Improving Balance Sheet Through Divestitures," Simmons & Company, July 28, 2016, PIPER_SANDLER-0003791, at 3791.

[78] "Q3'16 Update: Attractive Valuation – Waiting on Catalysts," Simmons & Company, September 8, 2016, PIPER_SANDLER-0003797, at 3798.

[79] "Anadarko Petroleum Corporation Company Conference Presentation," S&P Global, November 17, 2016, at p. 5.

[80] "1Q17: Headwinds Accumulate; Move to EW," Morgan Stanley, May 3, 2017, MS_ANADARKO_000216, at 0222.

[81] "Anadarko Petroleum Corp. (APC): Mgmt meeting highlights focus on E&P/midstream growth; Buy," Goldman Sachs, March 24, 2017, at 1, FIAM-ANAD-009176, at 9176.

prospects. As **Figure 2** shows, spot and future prices of oil never reached $70 per barrel during the Class Period. In fact, oil prices did not exceed $60 per barrel beginning June 25, 2015 (i.e., approximately four months after the start of the Class Period) through the end of the Class Period. In other words, the then-prevailing oil prices throughout the Class Period were not at a level that would have made the Shenandoah project economically viable when the alleged misstatements and the alleged corrective disclosure were made.[82] Given such uncertainty, some analysts assigned a low to zero value to Shenandoah after accounting for the risk of the project. For example:

- In a report dated July 6, 2015, despite acknowledging that "Shenandoah could be one of the largest GOM [Gulf of Mexico] discoveries," a Jefferies analyst opined that it gave 'no credit' to Shenandoah in their [Risk-Adjusted Asset Value]."[83]
- On April 12, 2016, a Wellington analyst noted: "So in the context of a futures curve, which underpins most M&A deals, the asset [Shenandoah] essentially has zero value. It's all a question of how much option value a buyer wants to assign."[84]

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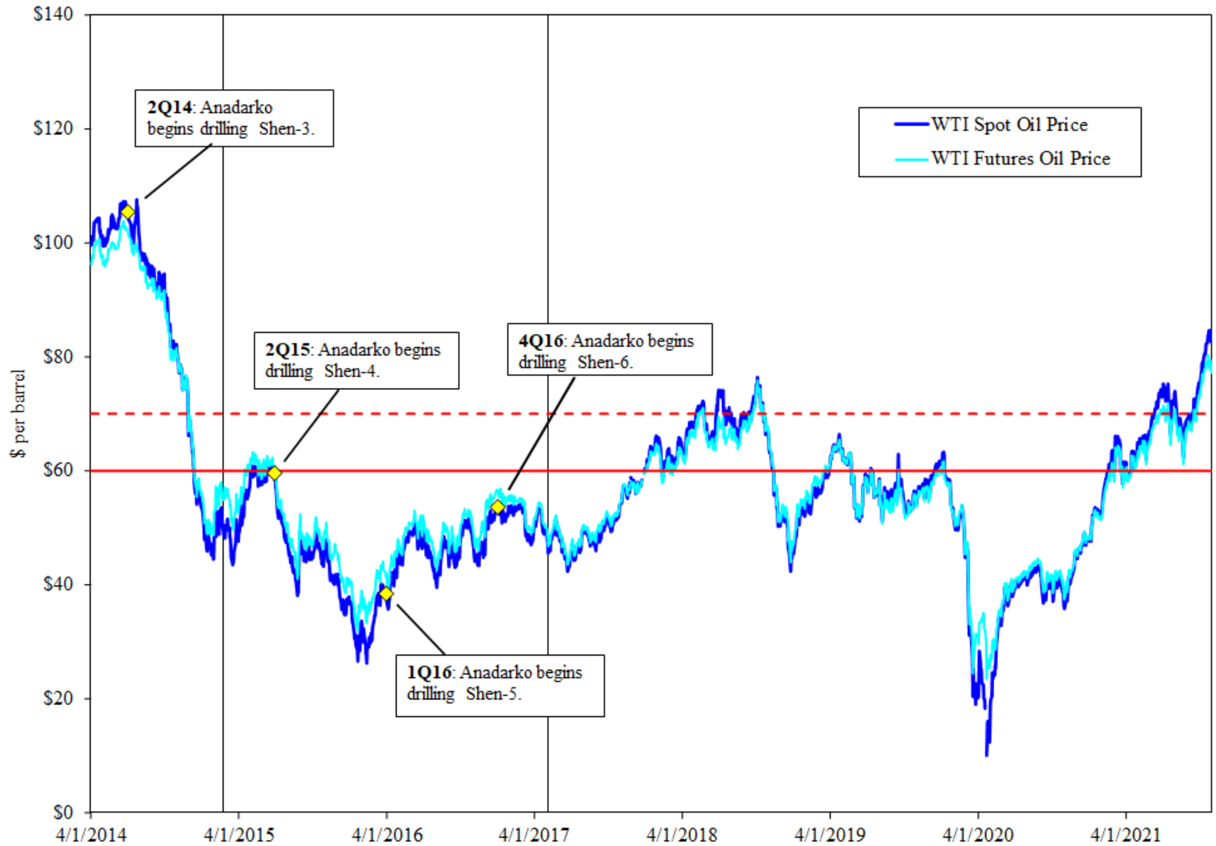
[82] Mr. Steinholt cites an email from Al Walker stating that "we are on our way to 3 digits," as evidence that when Shen-2's results were announced the former CEO of Anadarko was expecting the price of Anadarko's stock to increase. *See* Steinholt Report, ¶ 49. Mr. Steinholt ignores that the same email chain (dated two years prior to the start of the Class Period) references that the then-prevailing "WTI crude oil [price] closed at $92.96," which is much higher than any threshold to sanction Shenandoah that Anadarko disclosed during the Class Period. *See* Email from Robert Gwin to Al Walker dated March 20, 2013, Subject: RE: APC Daily Report 3.20.13, at 2955, APC-00572955.

[83] "Oil & Gas Exploration & Production Reduce Nat Gas Price Outlook, Remain Constructive; Upgrade APC, NBL, EOG," Jefferies, July 6, 2015, JanHen_00035055, at 5055 ("While we believe Shenandoah could be one of the largest GOM discoveries, we currently give no credit in our RAAV [Risk-Adjusted Asset Value] due to needed improvements in drilling technology (new build drillships with dual 20k PSI BOPs), which are unlikely to be available in the near-term.").

[84] Email from Mark Viviano at Wellington dated April 12, 2016, Subject: "Marathon (MRO,1,$8B): great WY sale but negative Shenandoah comp for APC/CIE," WMC-APC-0000317, at 0321.

Figure 2
WTI Oil Prices per Barrel: 2Q 2014 – 3Q 2021



Notes: (1) The vertical lines denote the beginning and end of the Class Period. (2) The red lines denote the $60 and $70 per barrel prices. Source: Bloomberg L.P.

ii. Mr. Steinholt's Claim That Shenandoah's Market Value Must Be at Least as Much as Its Book Value Is Flawed

37. Mr. Steinholt cites Anadarko's $893 million book value of Shenandoah to argue that Shenandoah was economically significant, claiming that "[w]hile book value is an accounting measure and sometimes very different than the market value investors may assign to an asset, it is generally viewed as a conservative measure of value."[85] Mr. Steinholt is incorrect that the book value of an asset is "generally viewed as a conservative measure of value" to the market. There is a clear distinction between book value and market value. Book value reflects

[85] Steinholt Report, ¶ 49.

sunk costs, which are *past* cash outlays.[86] By contrast, and as Mr. Steinholt also recognizes, market value reflects the present value of the *future* cash flows generated by the asset.[87] Thus, past cash outflows may not necessarily result in future cash flows and, even if it did, past cash flows may not even be predictive of future cash flows. Therefore, book value may be higher or lower than the market value.[88] For example, as of May 2, 2017, a number of other oil companies – e.g., Marathon Oil Corporation (a former partner in Shenandoah), Murphy Oil Corporation, and Transocean Ltd. – had market values that were less than their book values.[89] Given the above, there is no reliable economic basis for Mr. Steinholt's assertion that book value is generally viewed as a conservative measure of market value.

38. In this case, the $893 million Shenandoah book value as of March 31, 2017 reflects "sunk costs", i.e., past cash outlays. The sunk cost nature of Shenandoah's book value is confirmed by Anadarko's disclosure in its Form 10-Q filed after market close on May 2, 2017, that the $467 million impairment related to the Shenandoah project "originated from the purchase price allocated to Gulf of Mexico exploration projects from the acquisition of Kerr-McGee Corporation in 2006."[90] The remaining portion of the book value of Shenandoah relates to suspended well costs[91] – i.e., the cash outlay for those well costs expended in prior periods

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[86] *See, e.g.,* N. Mankiw, 2016, *Principles of Economics,* 8th ed. (Cengage Learning), p. 275 ("Economists say that a cost is a sunk cost when it has already been committed and cannot be recovered.") and R. Brealey, S. Myers, and F. Allen, 2011, *Principles of Corporate Finance,* 12th ed. (McGraw-Hill/Irwin), p. 137 ("Sunk costs are like spilled milk: They are past and irreversible outflows.").

[87] Steinholt Report, ¶ 49 ("[T]he value of an investment is based on the expected future cash flows of that investment, including the timing and associated risk of such cash flows.").

[88] *See, e.g.*, P. Asquith, and L. Weiss, 2019, *Lessons in Corporate Finance*, 2nd ed. (Wiley), p. 378 ("[T]he book value is a crude proxy since we know accounting values normally do not reflect market values. The question becomes: How to adjust accounting values to reflect market values? The answer to this question is not straightforward. We can, however, usually determine whether the market value is above or below the accounting value.").

[89] As of May 2, 2017, Marathon Oil, Murphy Oil and Transocean had market-to-book ratios of 0.710, 0.909 and 0.256, respectively. Source: Capital IQ.

[90] Anadarko Petroleum Corporation, Form 10-Q, March 31, 2017, at p. 12.

[91] *Compare* Anadarko Memo dated May 26, 2017, Subject: Dry Hole Analysis-Shenandoah, APC-00739080. The memo shows that as of March 31, 2017, the book value of Shenandoah was

but, for accounting purposes, a portion of those cash outlays were "suspended" and not expensed in the same period. Thus, despite acknowledging that the value of Shenandoah equals the present value of Shenandoah's future cash flows,[92] Mr. Steinholt conflates sunk costs related to Shenandoah with the value of Shenandoah. Without performing any analysis on Shenandoah, Mr. Steinholt cannot reliably establish that the market value of Shenandoah is comparable to or higher than its book value.[93]

39. The error of Mr. Steinholt's conflation of book and market value is further demonstrated by the book values assigned to Shenandoah by ConocoPhillips and Cobalt just prior to the suspension of appraisal, as reflected in the write-downs those companies took after May 2, 2017.[94] On May 4, 2017 after the market closed, ConocoPhillips announced that it booked $51 million in impairment and expensed $242 million in suspended well costs related to Shenandoah (i.e., a total of $293 million of write-downs).[95] This is approximately one-third of

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$892.9 million prior to impairments. The memo also shows that total impairments for Q1 2017 ((including $8.5 million that was impaired in February 2017) was $901.4 million, of which $467.0 million was "Leasehold." The remaining impairment for 1Q 2017 is equal to $434.4 million) with Anadarko Petroleum Corporation, Form 10-Q, March 31, 2017, at 12-13 (Showing that Anadarko reported $467 million impairment related to Shenandoah and $435 million of expensed suspended exploratory well costs related to Shenandoah.).

[92] Steinholt Report, ¶ 49 ("From an economic point of view, the value of an investment is based on the expected future cash flows of that investment, including the timing and associated risk of such cash flows. With respect to the Shenandoah, its value would be based on the future revenues, costs, and ultimately the future cash flows generated."). *See* P. Asquith, and L. Weiss, 2019, *Lessons in Corporate Finance*, 2nd ed. (Wiley), p. 363-365 ("What are sunk costs? They reflect cash that was spent in the past…Sunk costs are not included in project valuations…Investment analysis is always forward-looking."; T. Koller, M. Goedhart, and D. Wessels, 2020, *Valuation*, 7th ed. (Wiley), p. 370 ("[A] company's value equals the present value of future cash flows, not sunk costs."); & S. Ross, R. Westerfield and B. Jordan, 2015, *Fundamentals of Corporate Finance*, 11th ed. (McGraw Hill), p. 351 ("Suppose we are working on a preliminary discounted cash flow analysis…We carefully identify the relevant cash flows, avoiding such things as sunk costs…).

[93] Mr. Steinholt uses Anadarko's financial statements to support the assertion that Anadarko's market value of equity is higher than its book value of equity. *See* Steinholt Report, fn. 68. However, this only reflects the relation of the total Anadarko assets and not of a specific asset, such as Shenandoah.

[94] Steinholt Dep. Tr., 115:22-116:1.

[95] "ConocoPhillips Provides Update to First-Quarter 2017 Results Based on Subsequent Partner Disclosures and Information," *Business Wire*, May 4, 2017 (4:30 PM) (recording an additional pre-tax dry hole expense of $242 million and a pre-tax expense of $51 million for leasehold impairment in connection with Shenandoah).

the book value of Shenandoah carried by Anadarko on its books prior to the impairment,[96] notwithstanding the two companies having comparable working interests in Shenandoah and, thus, having a comparable share in the future cash flows from Shenandoah. On May 8, 2017, Cobalt, which owned 20% of Shenandoah, announced $232.8 million of suspended exploratory well costs, which it stated were "not associated with, nor … indicative of, what Cobalt believe[d] to be the intrinsic or fair market value of the Shenandoah discovery."[97] Thus, book value is not a reliable indicator of the value of Shenandoah.

VI. Mr. Steinholt Fails to Reliably Demonstrate That the Anadarko's Price Decline on May 3, 2017 Was Caused by the Correction of the Alleged Misstatements

40. Mr. Steinholt claims that "[w]hen the alleged truth was publicly disclosed, Anadarko's stock price declined, causing Class members to suffer economic damages as a result of the alleged fraud (i.e., the disclosure of the alleged truth)."[98] Mr. Steinholt claims that "the decline in Anadarko's stock price was caused by: (a) the suspension of appraisal activities at the Shenandoah, including the resulting $902 million write-off and expenses and (b) increased concerns regarding the Colorado regulatory environment which would impact all Colorado operators."[99] However, based on the evidence I reviewed, I find that Mr. Steinholt fails to reliably establish that the correction of the alleged misstatements caused harm to Anadarko's stockholders.[100]

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[96] Anadarko Memo dated May 26, 2017, Subject: Dry Hole Analysis-Shenandoah, APC-00739080 (showing $892.9 million book value of Shenandoah as of March 31, 2017, prior to the impairment).

[97] "Cobalt International Energy, Inc. Announces First Quarter 2017 Results and Provides Operational Update," *Business Wire*, May 8, 2017.

[98] Steinholt Report, ¶ 14(c), ¶ 50-99.

[99] Steinholt Report, ¶ 99.

[100] Mr. Steinholt cannot rely on his discussion of after-market price movements in Anadarko's stock to establish that there is some portion of the price decline that is related to the alleged corrective disclosure. *See* Steinholt Report, ¶¶ 53-55. As an initial matter, he has not established that after-market trading for Anadarko stock was efficient. Second, the news about the Firestone, Colorado fire was disseminated as early as 4:03 PM, which was prior to Anadarko's 1Q 2017 earnings release at 4:16 PM. *See, e.g.,* Denver 7 News tweet at 4:03 PM ("WATCH LIVE: Officials are providing an update on last month's home explosion in Firestone."). [@DenverChannel]. (2017, May 2, 4:03 PM); Denver 7 News tweet at 4:11 PM

41. First, despite explaining that, to establish loss causation, "there has to be some causal relationship between the alleged misrepresentations and the economic loss that a plaintiff seeks to recover,"[101] Mr. Steinholt does not analyze, let alone establish, the relationship (if any) between the alleged misrepresentations and Plaintiffs' economic loss. Thus, Mr. Steinholt does not have any reliable economic basis to establish that the alleged corrective disclosure is linked to any of the alleged misstatements. For this reason alone, Mr. Steinholt cannot reliably establish that any loss is attributable to the correction of the alleged misstatements.

42. Second, Mr. Steinholt's analysis cannot reliably attribute any portion of the price decline in Anadarko's stock price on May 3, 2017 to the alleged corrective disclosure. In addition to the alleged corrective disclosure, Mr. Steinholt identifies two potentially confounding factors: "(a) information contained in Anadarko's announcement of 1Q2017 results and FY2017 guidance that was unrelated to the Shenandoah disclosure, and (b) increased concerns regarding the regulatory environment in Colorado following an update and reactions by Governor Hickenlooper and others regarding the so-called Firestone Explosion."[102] However, Mr. Steinholt's analysis is flawed and unreliable.

43. Mr. Steinholt's analysis of the first confounding factor fails to account for the impact of Anadarko's disappointing volume guidance. Analyst reports indicate that there was a potentially negative impact associated with this news. For example, a JPMorgan analyst stated that "we expect a mixed reaction to the print given the weaker Q217 guide owing to GoM shut-ins for well tie-ins and maintenance and lingering uncertainty associated with the home

("Officials: Firestone home explosion caused by gas leaking into home from abandoned flow line.") [@DenverChannel]. (2017, May 2, 4:11 PM); and reporter Kevin Vaughn tweet at 4:09 PM ("Cause of deadly Firestone home explosion was a cut line to an oil and gas well.") [@writerkev]. (2017, May 2, 4:09 PM). *See also,* Steinholt Dep. Tr. 141:3-11 (acknowledging that the Firestone Fire Department press conference began "a couple of minutes after the close of the New York Stock Exchange"). Thus, Anadarko's after-market price reaction is confounded. Third, the stock prices of Anadarko's partners – i.e., ConocoPhillips and Cobalt – were relatively flat, while the stock prices of Anadarko and the companies in the Colorado Peer Group all fell during after-market hours trading on May 2, 2017. Therefore, there is no reliable economic basis for Mr. Steinholt to establish any portion of Anadarko's price decline on May 3, 2017 was caused by the alleged corrective disclosure. *See also* Steinholt Dep. Tr., 130:12-131:17.

[101] Steinholt Report, ¶ 50.

[102] Steinholt Report, ¶ 51.

explosion incident in the DJ Basin."[103] Similarly, a UBS analyst stated that "[n]o change to 2017 guidance but 2Q volume guide a bit light vs. expectations."[104] In addition, a Barclays analyst stated the "[p]roduction guidance was left largely unchanged, but 2Q oil volumes guidance was lower than expected."[105] As Mr. Steinholt acknowledges, the guidance was new information that Anadarko disclosed after market close on May 2, 2017.[106] Thus, his failure to account for the impact of the soft volume guidance on Anadarko's stock price on May 3, 2017 demonstrates that his estimate of abnormal return is overstated.

44. Mr. Steinholt also errs in his analysis of the second confounding factor. He claims that his use of the Colorado Peer Group index in his event study would "control for industry factors, which would include factors related to the Colorado regulatory environment."[107] Mr. Steinholt is wrong. As I explained above, the lack of statistically significant price reaction in ConocoPhillips's stock price, which is not affected by confounding information, indicates that the Shenandoah news was not new value-relevant information for Anadarko. Additionally, Mr. Steinholt's event study does not properly account for the Firestone, Colorado fire on May 3, 2017.[108] As **Table 2** and **Figure 3** shows, each of the other Colorado operators all experienced statistically significant declines on May 3, 2017. Further, the price declines of the other Colorado operators only reflect the *average* stock price reaction of Colorado operators and would not capture the disproportionate impact of the Colorado news on Anadarko due to (i) the explosion

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[103] "1Q17 Flash: Unfortunately, It's Déjà Vu All Over Again; Stock Reaction Mixed – ALERT," J.P. Morgan, May 2, 2017, FIAM-ANAD-009291, at 9291.

[104] "Large Exploration Expense Drives 1Q17 EPS/CFPS Miss but EBITDX Beats; Maintain 2017 Guidance," UBS, May 3, 2017, UBS 0001735, at p.1.

[105] "Results Overshadowed by a Colorado Home Explosion," Barclays, May 4, 2017, AtSos_00000656, at 0658.

[106] Steinholt Class Cert Dep. Tr., 42:17-43:2.

[107] Steinholt Report, ¶ 98.

[108] *See also supra* ¶¶ 27-28.

being linked to an Anadarko well[109] and (ii) Anadarko being the largest oil and gas producer in Colorado at the time.[110]

Table 2: Event Study Results
Stock Price Reaction of Anadarko and Other Colorado Operators on May 3, 2017

		Anadarko	**Noble Energy**	**PDC Energy**	**SRC Energy**	**Extraction Oil & Gas**
Raw Return	[A]	-7.7%	-4.0%	-4.8%	-7.0%	-5.4%
Predicted Return[(1)]	[B]	0.6%	0.5%	0.5%	0.8%	0.7%
Abnormal Return[(2)]	[C]	-8.3%	-4.5%	-5.3%	-7.8%	-6.1%
t-Statistic	[D]	-7.42	-3.86	-3.57	-3.93	-3.09
Statistically Significant?[(3)]	[E]	Yes	Yes	Yes	Yes	Yes

Notes: (1) **Appendix 3**. (2) [C] = [A] – [B]. (3) Statistical significance at the 5% level is denoted by a t-statistic with an absolute value of 1.96 or greater.

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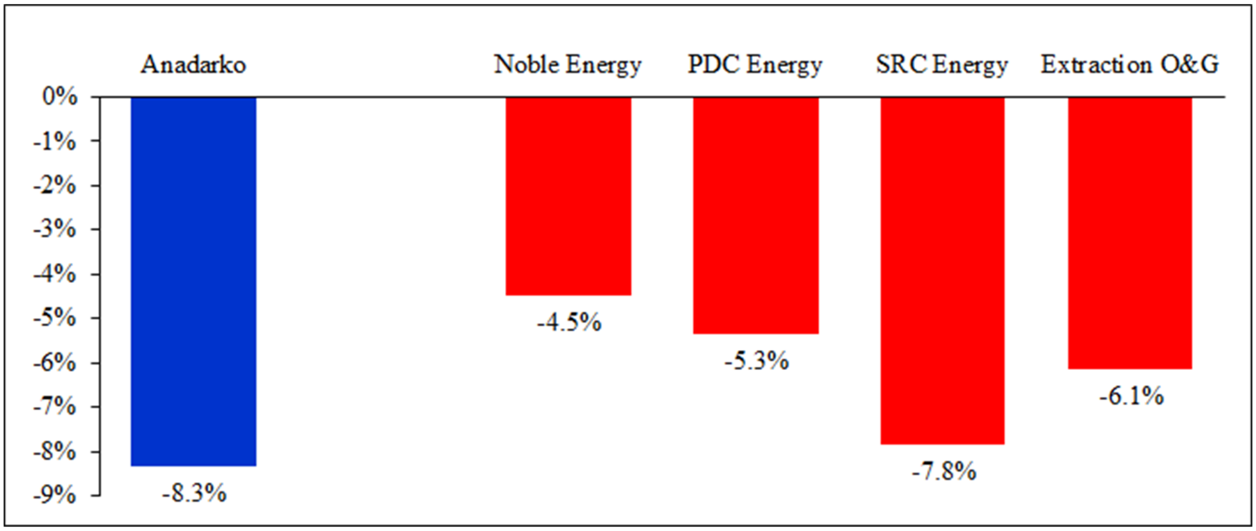
[109] *See, e.g.,* "Where Do We Go From Here?," Macquarie Research, May 3, 2017, at p. 1 ("We downgrade Anadarko to Neutral from Outperform based on the overhang from the Firestone incident and growing headwinds to the story…The findings of the Firestone investigation are a clear negative for Anadarko."); "APC – No Rest for the Weary," Guggenheim, May 3, 2017, at p. 1 ("The tragedy in Colorado on April 17 overshadows resource and operating momentum in the quarter…Shares could face headwinds until the regulatory ramifications are sorted out.); "Results Overshadowed by a Colorado Home Explosion," Barclays, May 4, 2017, AtSos_00000656, at 0656 ("We believe Q1 results were disappointing but have been overshadowed by a tragic home explosion in April that caused two deaths in the DJ Basin near one of Anadarko's wells."); "1Q17 Earnings at a Glance," Cowen and Company, May 2, 2017, at p. 1 ("CO explosion conclusion likely outweighs quarterly results, in our view."); "1Q17 Flash: Unfortunately, It's Déjà Vu All Over Again; Stock Reaction Mixed – ALERT," J.P. Morgan, May 2, 2017, FIAM-ANAD-009291, at 9291 ("[W]e expect a mixed reaction to the print given the weaker Q217 guide owing to GoM shut-ins for well tie-ins and maintenance and lingering uncertainty associated with the home explosion incident in the DJ Basin.").

[110] "APC Colorado Shut-ins," Evercore ISI, April 27, 2017, at p. 1 (noting that Anadarko was "the largest oil and gas producer in Colorado.").

Figure 3: Event Study Results
Anadarko and Other Colorado Operators
Abnormal Returns on May 3, 2017



Notes: The abnormal returns reported above are based on a regression of the company's return on the returns of the S&P 500 Index and the Peer Group Excluding Noble. *See* **Appendix 3**.

VII. Mr. Steinholt Has Not Demonstrated That Damages Can Be Reliably Measured in This Case

45. Per-share damages in securities litigation cases are measured by the artificial inflation at the time the shares were purchased minus the artificial inflation at the time those shares were sold (if they were sold). Thus, one has to be able to arrive at a reliable measure of artificial inflation on each day during the Class Period (i.e., an "inflation ribbon"). If the price decline associated with the alleged corrective disclosure at the end of the Class Period is used, it is crucial that the alleged corrective disclosure actually corrects the alleged misstatements and does not reveal information that could not have been known and disclosed at the time of the misstatement; otherwise, the price reaction to the alleged corrective disclosure cannot be used as a measure of the artificial inflation on earlier dates during the Class Period. In addition, to establish damages, it is necessary to demonstrate that the alleged misstatements constituted value-relevant information either by virtue of introducing inflation or omitted value-relevant information that was disclosed later, which, as I demonstrated above in Section V.A, Mr. Steinholt has not done.

46. Mr. Steinholt claims that the event study framework can be used to quantify damages in this case and that the estimated dollar inflation per share is $1.75 per share from February 21, 2015 through July 26, 2016 and $1.92 per share from July 27, 2016 through May 2, 2017.[111] Mr. Steinholt makes the change in the above inflation ribbon from $1.75 per share to $1.96 per share to account for the fact that, after market close on July 26, 2016, "Anadarko announced that it increased its working interest in Shenandoah from 30% to 33%."[112] While Mr. Steinholt made this one adjustment to account for the economic reality of the Shenandoah project, he fails to make several other adjustments that are required to reflect the economic reality of the Shenandoah project.

47. First, the price impact of the suspension of Shenandoah (i.e., 100% probability) is different than the price impact of the risk of a suspension of Shenandoah (i.e., less than 100% probability). In fact, Mr. Steinholt states that his understanding was that there was a more than 50% chance that Shenandoah was not commercially viable at the start of the Class Period, but the Shenandoah project was "certainly" (i.e., 100%) not commercially viable after Shen-4.[113] At a minimum, this "understanding" would require Mr. Steinholt to adjust his inflation ribbon to account for this change in probability, but he did not.

48. Second, the alleged corrective disclosure on May 2, 2017 also included the disclosure of the results of the Shen-6 appraisal well.[114] Drilling on Shen-6 started in the fourth quarter of 2016,[115] which was over 18 months after the start of the Class Period, and occurred after knowing the results of the Shen-4 and Shen-5 appraisal wells. Therefore, the same information disclosed on May 2, 2017 regarding Shenandoah could not have been disclosed prior to the fourth quarter of 2016, let alone the start of the Class Period. This creates a mismatch between the allegedly corrective information that was disclosed on May 2, 2017 with the earlier allegedly concealed truth, as the alleged corrective disclosure differs from what could and should

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[111] Steinholt Report, ¶ 14(d), ¶¶ 101-107.

[112] Steinholt Report, ¶ 106.

[113] Steinholt Dep. Tr., 52:18-53:12.

[114] Anadarko Petroleum Corporation, Form 10-Q, March 31, 2017, at p. 13.

[115] Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, at p. 11.

have been disclosed earlier in the Class Period. Mr. Steinholt does not attempt to reconcile the two. Thus, the abnormal price decline on May 3, 2017 does not and cannot appropriately measure the inflation on earlier days during the Class Period.

49. Third, there are market factors beyond Anadarko's control that influenced the economic viability of Shenandoah. Specifically, Anadarko disclosed and analysts acknowledged that the economic viability of the Shenandoah project relies on a certain threshold oil price level – i.e., Anadarko stated that it will not sanction Shenandoah at oil prices below $70 per barrel.[116] Oil prices throughout the Class Period were volatile, but never crossed $70 per barrel (i.e., lows in the $20s and highs in the $60s).[117] The fluctuation of oil prices would lead to changes in the market's assessment of the probability that Shenandoah was going to be sanctioned. Thus, a reliable inflation ribbon would need to account for these changes in probability throughout the Class Period, which Mr. Steinholt's inflation ribbon does not do.

50. Finally, Defendants' behavior is inconsistent with the price of Anadarko's stock being artificially inflated during the Class Period. It makes no economic sense for Anadarko, as well as its partners (i.e., ConocoPhillips and Cobalt), all of whom are experienced exploration and production companies, to spend hundreds of millions of dollars drilling appraisal wells (i.e., Shen-5 and Shen-6) for a project they knew was not commercially viable after Shen-4.[118] Similarly, it would make no economic sense for Anadarko to spend money to increase its working interest in Shenandoah in the middle of the Class Period if it was a project it knew was not commercially viable.

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[116] Email from Mark Viviano at Wellington dated April 12, 2016, Subject: "Marathon (MRO,1,$8B): great WY sale but negative Shenandoah comp for APC/CIE, WMC-APC-0000317, at 0321.

[117] *See supra* **Figure 2**.

[118] *See e.g.,* Anadarko Petroleum Corporation Form 10-K, December 31, 2016, at pp. 103-104; Cobalt 2016, Form 10-K, at F-18 & ConocoPhillips Form 10-K, December 31, 2016, at p. 98. *See also* Steinholt Dep. Tr., 35:17-24.

Dated: January 25, 2023

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Allen Ferrell

APPENDIX 1

December 2022

Allen Ferrell

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CURRENT POSITIONS

Greenfield Professor of Securities Law, Harvard Law School

Visiting Professor, Stanford Law School

National Bureau of Economic Research, Research Associate

Fellow, Columbia University's Program on the Law and Economics of Capital Markets

Faculty Associate, Kennedy School of Government

Research Associate, European Corporate Governance Institute

EDUCATION

Massachusetts Institute of Technology, Ph.D. in Economics, 2005
Fields in econometrics and finance

Harvard Law School, J.D., 1995, *Magna Cum Laude*

- Recipient of the *Sears Prize* (award given to the two students with the highest grades)
- Editor, *Harvard Law Review*

Brown University, B.A. and M.A., 1992, *Magna Cum Laude*

PREVIOUS POSITIONS

Harvard University Fellow
Harvard Law School, 1997

Law Clerk, Justice Anthony M. Kennedy
Supreme Court of the United States; 1996 Term

Law Clerk, Honorable Laurence H. Silberman
United States Court of Appeals for the District of Columbia; 1995 Term

COURSES TAUGHT

Contracts
Corporate Finance
Law and Finance
Securities Litigation & Regulation

REFEREE FOR FOLLOWING JOURNALS

American Law and Economics Review
Journal of Corporation Finance
Journal of Finance
Journal of Financial Perspectives
Journal of Law and Economics
Journal of Law, Economics and Organization
Journal of Legal Studies
Quarterly Journal of Economics

CONSULTING AREAS

Price Impact and Securities Damages, Valuation, Mergers & Acquisitions

Papers

"Hidden History of Securities Damages", 1 University of Chicago Business Law Review 97 (2022)

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United States v. Milton, 21 Crim. 478, Expert testimony on September 30 & October 3, 2022

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APPENDIX 2
Materials Considered

Court Documents

Amended Complaint for Violations of the Federal Securities Laws, No. 4:20-cv-00576, U.S. District Court, Southern District of Texas, Houston Division, filed August 17, 2020

Securities and Exchange Commission Filings

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"Efficiencies Drive Upside While Still Preserving Value," BMO Capital Markets, July 28, 2015

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APPENDIX 3
Description of Regression Models

1. I describe the event study methodology and report the results of my event study for Anadarko, ConocoPhillips, Cobalt, Noble Energy, PDC Energy, SRC Energy, and Extraction Oil & Gas in the text of my report. In this appendix, I describe the regression model and estimation period I use for each of these firms.

A. Regression Model for Anadarko, ConocoPhillips, and Cobalt in Table 1[1]

2. I use the S&P 500 Index as the market index and an equal-weighted portfolio consisting of the returns of Apache Corporation, Chesapeake Energy Corporation, Chevron Corporation, Devon Energy Corporation, EOG Resources, Inc., Hess Corporation, Marathon Oil Corporation, Noble Energy, Inc., Occidental Petroleum Corporation, and Pioneer Natural Resources Company (i.e., "Peer Group"). My equal-weighted portfolio index is similar to the one used by Mr. Steinholt in his class certification report, except for the exclusion of ConocoPhillips from the Peer Group.[2] I use the Peer Group as my industry index for all three regression models. The results of my event study are qualitatively similar and, therefore, the conclusions I draw are the same regardless of whether ConocoPhillips is included or excluded from the industry index.

3. Following Mr. Steinholt's methodology in the Steinholt Class Certification Report for the estimation period, I use 252 trading days prior to each event date after the exclusion of the company's "financial release" dates (i.e., the estimation period always has 252 observations). For Anadarko, I excluded the same "financial release" dates as Mr. Steinholt. Specifically, I excluded the following dates: May 6, 2014, July 30, 2014, October 29, 2014, February 3, 2015, May 5, 2015, July 29, 2015, October 28, 2015, February 2, 2016, May 3, 2016, July 27, 2016, November 1, 2016, February 1, 2017, and May 3, 2017. For ConocoPhillips, I excluded the following "financial release" dates: May 1, 2014, July 31, 2014, October 30, 2014, January 29,

[1] The table below presents the data on the nine factors Mr. Steinholt used to test the market efficiency of Anadarko as applied to ConocoPhillips and Cobalt. Based on this data, Mr. Steinholt's methodology would have concluded that ConocoPhillips's and Cobalt's common stock would have traded in an efficient market during the purported Class Period.

[2] Mr. Steinholt lists the members of his peer group in Steinholt Class Cert. Report, Exhibit D, note 2.

2015, April 30, 2015, July 30, 2015, October 29, 2015, February 4, 2016, April 28, 2016, July 28, 2016, October 27, 2016, February 2, 2017, and May 2, 2017. For Cobalt, I excluded the following "financial release" dates: February 27, 2014, May 1, 2014, August 5, 2014, November 4, 2014, February 23, 2015, May 5, 2015, August 4, 2015, November 3, 2015, February 22, 2016, May 3, 2016, August 2, 2016, November 1, 2016, and March 14, 2017.

B. Regression Models for Anadarko, Noble Energy, PDC Energy, SRC Energy, and Extraction Oil & Gas in Table 2[3]

4. I apply Mr. Steinholt's methodology in the Steinholt Class Cert. Report to Anadarko, Noble Energy, PDC Energy, SRC Energy, and Extraction Oil & Gas but made some changes. In deposition testimony, Mr. Steinholt appears to suggest that if his analysis took into account the alleged fraud he would have not included ConocoPhillips in his peer group.[4] Also in his deposition, Mr. Steinholt identified Noble Energy as one of the companies that was impacted by the news about the fire and explosion in Firestone, Colorado.[5] Accordingly, while I also use the S&P 500 Index as the market index for all of my regression models, I modify Mr. Steinholt's Peer Group by removing both ConocoPhillips and Noble to exclude the potential effects of the alleged fraud and news of the fire and explosion in Firestone, Colorado on the peer group returns. In particular, I constructed an equal-weighted portfolio consisting of the returns of Apache Corporation, Chesapeake Energy Corporation, Chevron Corporation, Devon Energy Corporation, EOG Resources, Inc., Hess Corporation, Marathon Oil Corporation, Occidental Petroleum Corporation, and Pioneer Natural Resources Company as the "Modified Steinholt Peer Group Excluding Noble".[6] I use the Modified Steinholt Peer Group Excluding Noble as my industry index for all five regression models. The results of my event study are qualitatively similar and, therefore, the conclusions I draw are the same whether or not ConocoPhillips and Noble are included or excluded from the industry index.

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[3] The table below presents the data on the nine factors Mr. Steinholt used to test the market efficiency of Anadarko as applied to Noble Energy, PDF Energy, SRC Energy, and Extraction Oil & Gas. Based on this data, Mr. Steinholt's methodology would have concluded that Noble Energy's, PDF Energy's, SRC Energy's, and Extraction Oil & Gas's common stock would have traded in an efficient market during the Class Period.

[4] Steinholt Class Cert. Dep. Tr. 15:2-8 & 25:17-22.

[5] Steinholt Class Cert. Dep. Tr. 28:8-10.

[6] Mr. Steinholt lists the members of his peer group in Steinholt Class Cert. Report, Exhibit D, note 2.

5. Following Mr. Steinholt's methodology in the Steinholt Class Certification Report for the estimation period, I use 252 trading days prior to May 3, 2017 after the exclusion of the company's "financial release" dates (i.e., the estimation period always has 252 observations) for Anadarko, Noble Energy, PDC Energy, and SRC Energy. Because it completed its IPO on October 12, 2016, I used an estimation period from October 13, 2016 to May 2, 2017 for Extraction Oil & Gas. Then, I excluded the respective "financial release" dates of each firm from the estimation period. For Anadarko, I excluded the same "financial release" dates as Mr. Steinholt. Specifically, I excluded the following dates: May 6, 2014, July 30, 2014, October 29, 2014, February 3, 2015, May 5, 2015, July 29, 2015, October 28, 2015, February 2, 2016, May 3, 2016, July 27, 2016, November 1, 2016, February 1, 2017, and May 3, 2017. For Noble Energy, I excluded the following "financial release" dates: April 24, 2014, July 24, 2014, October 28, 2014, February 19, 2015, May 5, 2015, August 3, 2015, November 2, 2015, February 17, 2016, May 4, 2016, August 3, 2016, November 2, 2016, February 14, 2017, and May 2, 2017. For PDC Energy, I excluded the following "financial release" dates: February 20, 2014, May 6, 2014, August 8, 2014, November 6, 2014, February 19, 2015, May 7, 2015, August 10, 2015, November 5, 2015, February 22, 2016, May 6, 2016, August 9, 2016, November 3, 2016, and February 28, 2017. For SRC Energy, I excluded the following "financial release" dates: April 4, 2014, July 9, 2014, October 28, 2014, January 9, 2015, April 9, 2015, July 9, 2015, October 16, 2015, January 8, 2016, May 4, 2016, August 5, 2016, November 4, 2016, and February 24, 2017. For Extraction Oil & Gas, I excluded the following "financial release" dates: November 8, 2016 and March 14, 2017.

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Analysis of Market Efficiency Factors Based On the Factors/Methodology Steinholt Applied to Anadarko

Steinholt Factor	Factor	Anadarko	ConocoPhillips	Cobalt	Noble Energy	Extraction Oil and Gas	PDC Energy	SRC Energy
Trading on NYSE/NASDAQ	[1]	Trades on NYSE	Trades on NYSE	Trades on NYSE	Trades on NASDAQ	Trades on NASDAQ	Trades on NASDAQ	Trades on NYSE
Average Weekly Trading Volume	[2]	5%	4%	6%	5%	4%	13%	10%
Analyst Coverage	[3]	Over 600 analyst reports and over 5,000 news articles on Bloomberg.	Over 700 analyst reports and over 10,000 news articles on Bloomberg.	Over 200 analyst reports and over 600 news articles on Bloomberg.	Over 900 analyst reports and over 4,000 news articles on Bloomberg.	64 analyst reports and over 1,200 news articles on Bloomberg.	Over 500 analyst reports and over 2,100 news articles on Bloomberg.	Over 400 analyst reports and over 2,100 news articles on Bloomberg.
Liquidity Providers and Institutional Investors	[4]	(1) 150 liquidity providers with 41 with volume of at least 1 million shares and (2) Institutions owned at least 86% of shares and more than 1,800 institutional investors owned more than 440 million shares.	(1) 180 liquidity providers with 43 with volume of at least 1 million shares and (2) Institutions owned at least 65% of shares and more than 2,500 institutional investors owned more than 800 million shares.	(1) 130 liquidity providers with 28 with volume of at least 1 million shares and (2) Institutions owned at least 95% of shares and more than 500 institutions owned more than 28 million shares.	(1) 160 liquidity providers with 30 with volume of at least 1 million shares and (2) Institutions owned at least 94% of shares and more than 1,100 institutional investors owned more than 366 million shares.	(1) 110 liquidity providers with 13 with volume of at least 1 million shares and (2) Institutions owned at least 71% of shares and more than 170 institutional investors owned more than 120 million shares.	(1) 160 liquidity providers with 29 with volume of at least 1 million shares and (2) Institutions owned at least 107% of shares and more than 600 institutions owned more than 45 million shares.	(1) 75 liquidity providers with 6 with volume of at least 1 million shares and (2) Institutions owned at least 77% of shares and more than 400 institutions owned more than 80 million shares.
Eligibility to file S-3	[5]	(1) SEC reporting company for at least 12 months; (2) Had $75 million in voting stock held by non-affiliates; (3) Filed S-3 on August 12, 2016.	(1) SEC reporting company for at least 12 months; (2) Had $75 million in voting stock held by non-affiliates; (3) Filed S-3 on May 13, 2015	(1) SEC reporting company for at least 12 months; (2) Had $75 million in voting stock held by non-affiliates; (3) Filed S-3 on December 22, 2016	(1) SEC reporting company for at least 12 months; (2) Had $75 million in voting stock held by non-affiliates; (3) Filed S-3 on February 17, 2016	(1) Not an SEC reporting company for at least 12 months; (2) Had $75 million in voting stock held by non-affiliates. (3) Did not file Form S-3 during purported Class Period.	(1) SEC reporting company for at least 12 months; (2) Had $75 million in voting stock held by non-affiliates; (3) Filed S-3 on March 18, 2015	(1) SEC reporting company for at least 12 months; (2) Had $75 million in voting stock held by non-affiliates; (3) Filed S-3 on September 11, 2015
Market, Industry, and Company-Specific Information Incorporated Into Stock Price	[6]	(1) One-factor regression of market index over purported Class Period shows market index is statistically significant at 5% level; (2) One-factor regression of industry index over purported Class Period shows industry index is statistically significant at 5% level; (3) 5 out of 9 financial release dates are statistically significant at the 5% level.	(1) One-factor regression of market index over purported Class Period shows market index is statistically significant at 5% level; (2) One-factor regression of industry index over purported Class Period shows industry index is statistically significant at 5% level; (3) 3 out of 9 financial release dates are statistically significant at the 5% level.	(1) One-factor regression of market index over purported Class Period shows market index is statistically significant at 5% level; (2) One-factor regression of industry index over purported Class Period shows industry index is statistically significant at 5% level; (3) 4 out of 9 financial release dates are statistically significant at the 5% level.	(1) One-factor regression of market index over purported Class Period shows market index is statistically significant at 5% level; (2) One-factor regression of industry index over purported Class Period shows industry index is statistically significant at 5% level; (3) 5 out of 9 financial release dates are statistically significant at the 5% level.	(1) One-factor regression of market index over purported Class Period shows market index is statistically significant at 5% level; (2) One-factor regression of industry index over purported Class Period shows industry index is statistically significant at 5% level; (3) 1 out of 2 financial release dates are statistically significant at the 5% level.	(1) One-factor regression of market index over purported Class Period shows market index is statistically significant at 5% level; (2) One-factor regression of industry index over purported Class Period shows industry index is statistically significant at 5% level; (3) 4 out of 8 financial release dates are statistically significant at the 5% level.	(1) One-factor regression of market index over purported Class Period shows market index is statistically significant at 5% level; (2) One-factor regression of industry index over purported Class Period shows industry index is statistically significant at 5% level; (3) 4 out of 8 financial release dates are statistically significant at the 5% level.
Market Capitalization	[7]	$15 billion to $50 billion.	$39 billion to $85 billion.	$167 million to $4.6 billion.	$11 billion to $21 billion.	$2.6 billion to $3.5 billion.	$1.6 billion to $4.6 billion.	$607 million to $2 billion.
Bid-Ask Spread	[8]	$0.02 per share or 0.02% of closing price.	$0.01 per share or 0.02% of closing price.	$0.13 per share or 0.34% of closing price.	$0.01 per share or 0.03% of closing price.	N/A	$0.02 per share or 0.04% of closing price.	$0.01 per share or 0.13% of closing price.
Float	[9]	500 million shares.	1.2 billion shares.	23 million shares.	355 million shares.	N/A	35 million shares.	83 million shares.

Analysis of Market Efficiency Factors Based On the Factors/Methodology Steinholt Applied to Anadarko

Notes and sources:
The above analysis is based on data from February 20, 2015 through May 2, 2017, except for Extraction Oil & Gas which starts on October 11, 2016 (i.e., the date of its initial public offering). *See* "Extraction Oil & Gas, Inc. Prices Initial Public Offering," Extraction Oil & Gas, Inc. Press Release, October 11, 2016.
[1]: Exchange listing per company Form 10-Ks filed from February 20, 2015 to May 2, 2017 with the SEC.
[2]: Steinholt Class Cert Report, ¶ 25. Per Steinholt Class Cert Report Exhibit B, average weekly share turnover is calculated from average daily share turnover from February 20, 2017 through May 2, 2017 multiplied by five. Volume data per ©2021CRSP®, Center for Research in Security Prices. Booth School of Business, The University of Chicago. Used with permission. All rights reserved. www.crsp.chicagobooth.edu; Bloomberg L.P.
[3]: Steinholt Class Cert Report, ¶ 28. Number of analyst reports per S&P Capital IQ. Number of news articles per Bloomberg function CN.
[4]: Steinholt Class Cert Report, ¶¶ 32-33. Number of liquidity providers per Bloomberg function BAS. Institutional holdings data from March 31, 2015 to March 31, 2017 per Thomson Financial.
[5]: Steinholt Class Cert Report, ¶ 35. Each company's Form S-3 filing date per SEC EDGAR database. Extraction Oil & Gas completed its IPO in October, 2016 and filed its S-3 on May 14, 2018. *See* "Extraction Oil & Gas, Inc. Prices Initial Public Offering," Extraction Oil & Gas, Inc. Press Release, October 11, 2016; Extraction Oil & Gas, Inc., Form S-3, May 14, 2018.
[6]: Steinholt Class Cert Report, ¶¶ 39-41. Company, S&P 500 Index, and industry index returns per ©2021CRSP®, Center for Research in Security Prices. Booth School of Business, The University of Chicago. Used with permission. All rights reserved. www.crsp.chicagobooth.edu. Description of the industry indices and financial release dates per Ferrell Report Appendix D. For the "financial release" dates, Mr. Steinholt finds that the cumulative probability of finding at least 5 out of 9 dates being statistically significant at the 5% level using a binomial distribution is 1 in more than 30,000, which exceeds his benchmark of 1 out of 20. Steinholt Class Cert. Report, ¶ 41 and note 55. Using Mr. Steinholt's methodology, the cumulative probability is 1 out of 120 for ConocoPhillips, 1 out of 1,556 for Cobalt, 1 out of 30,100 for Noble, 1 out of 10 for Extraction Oil & Gas, and 1 out of 2,690 for both PDC Energy and SRC Energy.
[7]: Steinholt Class Cert Report, ¶ 47. Market capitalization data per ©2021CRSP®, Center for Research in Security Prices. Booth School of Business, The University of Chicago. Used with permission. All rights reserved. www.crsp.chicagobooth.edu; Bloomberg L.P.
[8]: Steinholt Class Cert Report, ¶ 49. Bid-ask spread data per Bloomberg L.P.
[9]: Steinholt Class Cert Report, ¶ 51. Float data per Bloomberg L.P.

APPENDIX 4
Regression Results for Alleged Misstatements

The table below details the results of the event study regression analysis for each of the alleged misstatement dates. Specifically, it reports for each alleged misstatement date Anadarko's abnormal return, the associated t-statistic, and whether the abnormal return is statistically significant at the 5% level (i.e., whether the absolute value of the t-statistic is greater than or equal to 1.96).

	Timestamp [A]	Event [B]	Statistics [C]	Results [D]
1	02/20/15 4:35 PM (Price Reaction Date: 02/23/15)	Anadarko files 2014 Form 10-K. (Complaint ¶¶ 97-99)	Abnormal Return t-Statistic Positive and Stat. Significant?	0.63% 0.48 No
2	03/03/15 8:50 AM (Price Reaction Date: 03/03/15)	Anadarko issues capital expectations and guidance press release and hosts 2015 capital program and guidance conference call with investors and analysts. (Complaint ¶¶ 101-103)	Abnormal Return t-Statistic Positive and Stat. Significant?	0.39% 0.30 No
3	5/4/15 4:22 PM (Price Reaction Date: 5/5/15)	Anadarko files 1Q 2015 Form 10-Q. (Complaint ¶ 104)	Abnormal Return t-Statistic Positive and Stat. Significant?	-2.20% -2.31 No
	5/5/15 9:00 AM (Price Reaction Date: 5/5/15)	Anadarko hosts 1Q 2015 earnings call. (Complaint ¶ 105)		
4	5/20/15 9:30 AM (Price Reaction Date: 5/20/2015)	Anadarko hosts the UBS Global Oil and Gas Conference. (Complaint ¶ 106)	Abnormal Return t-Statistic Positive and Stat. Significant?	-0.73% -0.77 No
5	7/28/15 4:05 PM (Price Reaction Date: 7/29/15)	Anadarko issues 2Q 2015 press release. (Complaint ¶ 107)	Abnormal Return t-Statistic Positive and Stat. Significant?	2.98% 3.44 Yes
	7/29/15 9:00 AM (Price Reaction Date: 7/29/15)	Anadarko hosts 2Q 2015 earnings call. (Complaint ¶ 108)		
6	10/27/15 4:05 PM (Price Reaction Date: 10/28/15)	Anadarko issues 3Q 2015 press release. (Complaint ¶ 109)	Abnormal Return t-Statistic Positive and Stat. Significant?	-2.67% -2.98 No

	10/28/15 9:00 AM (Price Reaction Date: 10/28/15)	Anadarko 3Q 2015 earnings call. (Complaint ¶¶ 110-112)		
7	11/11/15 10:18 AM (Price Reaction Date: 11/11/15)	Anadarko hosts call with investors and analysts. (Complaint ¶ 113)	Abnormal Return t-Statistic Positive and Stat. Significant?	-0.00% -0.00 No
8	2/2/16 9:00 AM (Price Reaction Date: 2/2/16)	Anadarko hosts 4Q 2015 earnings call. (Complaint ¶ 114)	Abnormal Return t-Statistic Positive and Stat. Significant?	7.36% 5.53 Yes
9	2/17/16 6:29 AM Price Reaction Date: 2/17/16)	Anadarko files 2015 Form 10-K. (Complaint ¶¶ 115-118)	Abnormal Return t-Statistic Positive and Stat. Significant?	-0.10% -0.07 No
10	2/24/16 10:40 AM (Price Reaction Date: 2/24/16)	Credit Suisse Energy Summit with investors and analysts. (Complaint ¶ 119)	Abnormal Return t-Statistic Positive and Stat. Significant?	-0.46% -0.31 No
11	3/1/16 8:50 AM (Price Reaction Date: 3/1/16)	Anadarko issues 2016 initial capital expectations and guidance press release. (Complaint ¶ 120)	Abnormal Return t-Statistic Positive and Stat. Significant?	3.91% 2.58 Yes
12	5/3/16 9:00 AM (Price Reaction Date: 5/3/16)	Anadarko hosts 1Q 2016 earnings call. (Complaint ¶ 121)	Abnormal Return t-Statistic Positive and Stat. Significant?	0.74% 0.45 No
13	5/11/16 9:00 AM (Price Reaction Date: 5/11/16)	Citi Global Energy & Utilities Conference with investors and analysts. (Complaint ¶ 123)	Abnormal Return t-Statistic Positive and Stat. Significant?	1.21% 0.72 No
14	5/24/16 1:55 PM (Price Reaction Date: 5/24/16)	UBS Global Oil and Gas Conference with investors and analysts. (Complaint ¶¶ 124-126)	Abnormal Return t-Statistic Positive and Stat. Significant?	0.61% 0.36 No
15	6/28/16 9:40 AM (Price Reaction Date: 6/28/16)	JPMorgan Inaugural Energy Conference with investors and analysts. (Complaint ¶¶ 127-128)	Abnormal Return t-Statistic Positive and Stat. Significant?	-0.89% -0.52 No
16	7/26/16	Anadarko issues 2Q 2016 press release.	Abnormal Return	0.08%

	4:05 PM (Price Reaction Date: 7/27/16)	(Complaint ¶ 131)	t-Statistic Positive and Stat. Significant?	0.05 No
	7/26/16 4:54 PM (Price Reaction Date: 7/27/16)	Anadarko files 2Q 2016 Form 10-Q. (Complaint ¶¶ 129-130).		
	7/27/2016 9:00 AM (Price Reaction Date: 7/27/16)	Anadarko hosts 2Q 2016 conference call. (Complaint ¶¶ 132-133)		
17	8/16/16 4:45 PM (Price Reaction Date: 8/17/16)	EnerCom Oil & Gas Conference with investors and analysts. (Complaint ¶ 134)	Abnormal Return t-Statistic Positive and Stat. Significant?	0.13% 0.07 No
18	9/14/16 12:00 PM (Price Reaction Date: 9/14/16)	UBS Houston Energy Bus-Less Tour with investors and analysts. (Complaint ¶ 135)	Abnormal Return t-Statistic Positive and Stat. Significant?	-1.56% -0.89 No
19	11/01/16 9:00 AM (Price Reaction Date: 11/01/16)	Anadarko hosts 3Q 2016 earnings call with investors and analysts. (Complaint ¶ 136)	Abnormal Return t-Statistic Positive and Stat. Significant?	1.54% 0.88 No
20	2/01/17 9:00 AM (Price Reaction Date: 2/1/17)	Anadarko hosts 4Q 2016 earnings call with investors and analysts. (Complaint ¶ 137)	Abnormal Return t-Statistic Positive and Stat. Significant?	-1.02% -0.68 No
21	2/17/17 6:35 AM (Price Reaction Date: 2/17/17)	Anadarko files 2016 Form 10-K. (Complaint ¶¶ 138-140)	Abnormal Return t-Statistic Positive and Stat. Significant?	0.24% 0.17 No

Sources: Complaint, ¶¶ 97-99, 101-121, 123-140; **Appendix 3**. The sources for date and timestamp information are listed in **Appendix 2**.

APPENDIX 5

Analysis of Information Disclosed on July 28, 2015, February 2, 2016, and March 1, 2016

A. July 28, 2015

1. Plaintiffs claim that Anadarko's press release on July 28, 2015 after market close contained the alleged misstatement that Anadarko had "[a]chieved large-scale project milestones in the Gulf of Mexico."[1] However, this sentence does not refer to Shenandoah, but rather to Lucius, a different Gulf of Mexico facility. In the same press release, Anadarko disclosed that Lucius "achieved name-plate capacity of 80,000 BOPD with production stabilizing during the quarter."[2] The only reference to Shenandoah in this press release appears two paragraphs later, with a paragraph about Anadarko's Mozambique liquefied natural gas project in between.[3] Therefore, the information disclosed on this date is unrelated to Shenandoah.

2. Similarly, Plaintiffs claim that Anadarko's statement during a July 29, 2015 2Q 2015 conference call contained the alleged misstatement that "Coronado is part of the Shenandoah mini-basin. We've got a discovery there that we have appraised. So we think we've got a pretty good handle on what it is. We recently picked up our blocks again; we had some expiries that we had to put back in, and then picked them back up. That's going to stay that way until we have a Shenandoah development put in place, because we see it as a tie-back through that facility."[4] However, this alleged misstatement does not refer to the Shenandoah project, but rather to Coronado, a different appraisal project located in the Shenandoah basin. In its 2013 Form 10-K, Anadarko stated: "In the Shenandoah basin in Walker Ridge, discoveries were successfully drilled at Coronado (35% working interest)."[5] Therefore, the information disclosed on this date is unrelated to Shenandoah.

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[1] Complaint, ¶ 107 & https://www.sec.gov/Archives/edgar/data/773910/000077391015000012/0000773910-15-000012-index.htm (last accessed January 25, 2023).

[2] "Anadarko Announces Second-Quarter 2015 Results," *PR Newswire*, July 28, 2015 (4:05 PM).

[3] "Anadarko Announces Second-Quarter 2015 Results," *PR Newswire*, July 28, 2015 (4:05 PM).

[4] Complaint, ¶ 108

[5] Anadarko Petroleum Corporation, Form 10-K, December 31, 2013, at p. 9.

3. Plaintiffs also claim that Anadarko's press release contained the alleged misstatement that "Anadarko spud its third appraisal well in the Shenandoah field."[6] However, investors were already aware that Anadarko planned to drill its third appraisal well during 2Q 2015. For example, in Anadarko's 2014 Form 10-K, the Company stated: "Planning is underway for the next appraisal well, which the Company expects to spud in the second quarter of 2015."[7] Assuming an efficient market, Anadarko's stock would not react to the disclosure of this stale information.

4. I also reviewed available analyst reports on Anadarko to determine whether there was confounding information on this date. I reviewed 30 reports (issued by 26 different analyst firms, including 17 analyst firms identified by Mr. Steinholt) on Anadarko published after the alleged misstatement during July 28-29, 2015 and found that Shenandoah was not mentioned in 22 of the 30 analyst reports (73%).[8] In the remaining eight reports (27%), none of the analysts mentioned Shenandoah when adjusting estimates or price targets.[9] I also reviewed the analyst commentary within these reports and found that analysts overwhelmingly reported that Anadarko exceeded earnings, oil production, and cash flow expectations during the quarter, rather than the alleged misstatements. For example, a Wells Fargo analyst that did not mention Shenandoah stated "Takeaway: Positive. Strong quarter big EPS beat on crude production and lower expenses."[10] Likewise, an Atlantic Equities analyst that did not mention Shenandoah reported: "Strength in domestic oil output…driven by the Lucius and Wattenberg projects allied to good

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[6] Complaint, ¶ 107.

[7] Complaint, ¶ 97.

[8] Mr. Steinholt specifically identifies 27 analyst firms in his report. Steinholt Class Cert. Report, ¶27. For my review of analyst reports published during July 28-29, 2015 (as well as February 2-3 and March 1-2, 2016 discussed below), I obtained Anadarko reports from the Capital IQ, FactSet, Refinitiv and Eikon databases published by the analyst firms identified by Mr. Steinholt. I then supplemented this set with additional reports available from these databases (i.e., issued by analyst firms not identified by Mr. Steinholt) and with reports provided to me by counsel for Defendants that were not available from these databases (e.g., Goldman Sachs analyst reports). The reports I reviewed are listed in **Appendix 2**.

[9] The analyst firms that published reports during July 28-29, 2015 that mention Shenandoah are: Bank of America Merrill Lynch; Cowen and Company; Deutsche Bank; Global Hunter Securities; GMP Securities; Societe Generale; UBS; and Wolfe Research.

[10] "APC: Positive—Strong Crude Production, Lower Expenses," Wells Fargo, July 28, 2015, APC-00186483, at 6483.

cost control helped push results ahead of guidance and consensus."[11] Similarly, an RBC analyst that did not mention Shenandoah stated that they "expect APC shares to trade higher due to the strong cash flow and operational update."[12] In addition, a Barclays analyst that did not mention Shenandoah noted that they "believe investors will react positively to Anadarko's 2Q15 earnings and operational update." [13]

5. I also searched for press articles related to Anadarko on July 28-29, 2015.[14] I found press articles that reported that Anadarko's strong earnings and production report, rather than the alleged misstatements related to Shenandoah, were the reasons behind the price increase on July 29, 2015. For example, *The Financial Times* reported: "Investors pushed shares of Anadarko Petroleum higher after the US oil and gas company reported an unexpected profit in the second quarter, amid the protracted drop in crude prices, by boosting oil production but keeping operating costs low."[15]

B. February 2, 2016

6. Plaintiffs claim that Anadarko made the following misstatement in its February 2, 2016 earnings call: "These other longer-dated projects [such as Shenandoah], we believe today are worthy of spending capital, expecting that oil is not going to be at $30 for the rest of our life" (bracketed text is part of original quote).[16] Investors were already aware that Anadarko planned to invest in longer-dated projects despite low oil prices. On October 28, 2015, the company had stated: "Given the challenging supply and demand fundamentals and continued uncertainty around sustainably longer oil prices -- sustainably higher oil prices, you can expect us to see continued investment in higher percentage longer cycle opportunities, such as exploration, where we achieved some very encouraging early results offshore Colombia as well as success

[11] "Strong US oil output and good cost control, Atlantic Equities," July 29, 2015.

[12] "APC – 2Q15 Earnings Beat; Oil Production Outlook Increased," RBC Capital Markets, July 28, 2015 (5:33 PM), JanHen_00040613, at 0613.

[13] "APC: Strong Beat Driven by Liquids Volumes," Barclays, July 28, 2015, APC-00186477, at 6477.

[14] Specifically, I searched the Lexis-Nexis and Factiva databases for news articles with "Anadarko" in the headline and lead paragraph.

[15] "Anadarko jumps after earnings surprise," *Financial Times*, July 29, 2015 (2:05 PM).

[16] Complaint, ¶ 114.

delineating our activities at Shenandoah."[17] Assuming an efficient market, Anadarko's stock would not react to the disclosure of this stale or expected information.

7. I also reviewed available analyst reports on Anadarko to determine whether there was confounding information on this date. I reviewed 24 reports (issued by 20 different analyst firms, including 13 analyst firms identified by Mr. Steinholt) on Anadarko published after the alleged misstatement during February 2-3, 2016 and found that Shenandoah was not even mentioned in 14 of 24 analyst reports (58%).[18] In the remaining 10 reports (42%), none of the analysts mentioned Shenandoah when adjusting estimates or price targets.[19] I also reviewed the analyst commentary within these reports and found that analysts focused on Anadarko performance in the preceding quarter, rather than the alleged misstatements. For example, a Barclays analyst wrote that "[w]e expect a positive reaction to Anadarko's 4Q15 earnings release and operational update. APC posted earnings and cash flow numbers that were above both Barclays' and consensus."[20] Similarly, a Jefferies analyst wrote: "Positive initial take on 4Q release on better than expected EPS on higher volumes and lower costs."[21] Likewise, a Capital One analyst stated: "Positive. 4Q results were solid, and more importantly, APC's preliminary CAPEX guidance of $2.8B is much closer to our $2.5B est than the Street's $4.5B est, so the projected outspend should be significantly lower than most expect. This should be welcome news."[22]

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[17] Anadarko Petroleum FQ3 2015 Earnings Call Transcript, October 28, 2015.

[18] The analyst firms that published reports during February 2-3, 2016 that do not mention Shenandoah are: Atlantic Equities; CFRA Equity Research (2 reports); Goldman Sachs; Guggenheim Securities LLC Macquarie Research; Morningstar; Raymond James & Associates; RBC Capital Markets; Scotiabank Global Banking and Market; Simmons & Company (Piper Sandler) (2 reports); Wells Fargo Securities, LLC (2 Reports).

[19] The analyst firms that published reports during February 2-3, 2016 that mention Shenandoah are: Barclays Capital, Inc; BMO Capital Markets; Bank of America Merrill Lynch; Credit Suisse; Johnson & Rice; MUFG Securities Americas Inc; Societe Generale; UBS (2 reports); and Wolfe Research.

[20] "APC Cuts 2016 Budget 50% vs. 2015. Will Discuss 2016 Outlook on Conference Call Tomorrow, but Detailed Guidance to Come March 1st," Barclays, February 1, 2016.

[21] "Solid Q4 Operating Results, Prelim Capex Down 50%," Jefferies, February 1, 2016, JEFF00007303, at 7303.

[22] "APC 4Q A Quick Take," Capital One, February 2, 2016.

8. I also searched for press articles related to Anadarko on February 2-3, 2016.[23] I found that press articles focused on Anadarko's earnings report, rather than the alleged misstatement, and these can explain the price increase on February 2, 2016. For example, as *Reuters News* explained: "Shares of [Anadarko] rose 2.8 percent to $29.30 in Tuesday afternoon trading after the dividend comments assuaged concerns about Anadarko's cash management. The company also posted better-than-expected results late on Monday."[24] Additionally, *TheStreet.com* reported: "Anadarko Petroleum Corp. shares are rallying 4.26% to $39.88 in after-hours trading Monday following the company's fourth quarter fiscal 2015 earnings results reported today after the closing bell. During the latest quarter, the company reported a loss of 57 cents a share, better than Wall Street's expectations of a loss of $1.09 a share."[25]

C. March 1, 2016

9. Plaintiffs claim that Anadarko's press release on March 1, 2016 before the market open contained the alleged misstatement that Anadarko "plans to advance existing discoveries through appraisal activities at Shenandoah."[26] Investors were already aware that Anadarko planned to "advance" with appraisals of Shenandoah. On February 24, 2016, Anadarko stated that "we still are advancing the project, but we're a ways away from a sanction at Shenandoah."[27] Assuming an efficient market, Anadarko's stock would not react to the disclosure of this stale information.

10. I also reviewed available analyst reports on Anadarko to determine whether there was confounding information on this date. I reviewed 25 reports (issued by 22 different analyst firms, including 17 analyst firms identified by Mr. Steinholt) on Anadarko published after the alleged misstatement during March 1-2, 2016 and found that Shenandoah was not even

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[23] Specifically, I searched the Lexis-Nexis and Factiva databases for news articles with "Anadarko" in the headline and lead paragraph.

[24] "UPDATE 1-Anadarko says it may cut dividend due to high yield," *Reuters News*, February 2, 2016 (2:21 PM).

[25] "Anadarko Petroleum (APC) Stock Pops in After-Hours Trading on Improving Quarterly Earnings, *The Street.com*, February 1, 2016 (4:30 PM).

[26] Complaint, ¶ 120.

[27] Anadarko Petroleum Company Conference Presentation, February 24, 2016.

mentioned in 17 of 25 analyst reports (68%).[28] In the remaining eight reports (32%), none of the analysts mentioned Shenandoah when adjusting estimates or price targets.[29] I also reviewed the analyst commentary within these reports and found that analysts focused on Anadarko's capital program for 2016, rather than the alleged misstatement. For example, a Capital One analyst stated: "APC's official '16 guidance & investor call this morning offered few surprises, but mgmt did reiterate the company has no plans or need to issue new equity and it essentially upsized the asset sale/monetization program to $2.0B - $3.0B vs $1.3B already announced so far this year."[30] Likewise, a Johnson Rice analyst explained that "[w]ith the major parameters of 2016 guidance already disclosed, one of the most important things Anadarko did with its guidance call was put another punctuation mark on its declaration that they did not see a need to raise equity in the near term.[31]

11. I also searched for press articles related to Anadarko on March 1-2, 2016.[32] I found that press articles focused on Anadarko's earnings report, rather than the alleged misstatement, and can explain the price increase on March 1, 2016. For example, *TheStreet.com* reported that "Anadarko Petroleum stock is rising 6.38% to $40.37 in afternoon trading on Tuesday, as the oil and gas producer plans to reduce 2016 capital spending by roughly half."[33] Also, *Benzinga* reported that "[s]hares of Anadarko Petroleum Corporation (NYSE: APC) were

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[28] The analyst firms that published reports during March 1-2, 2016 that do not mention Shenandoah are: Acquisdata; Cowen and Company (2 reports); Deutsche Bank; Guggenheim Securities LLC; Jefferies; Johnson & Rice; Macquarie Research; Morgan Stanley; Morningstar; MUFG Securities Americas Inc.; RBC Capital Markets (2 reports); Simmons & Company (Piper Sandler); Societe Generale; and Wells Fargo Securities, LLC (2 reports).

[29] The analyst firms that published reports during March 1-2, 2016 that mention Shenandoah are: Barclays Capital, Inc; Bank of America Merrill Lynch; Capital One; Credit Suisse; Evercore ISI; Scotiabank Global Banking and Market; UBS and Wolfe Research.

[30] "APC: '16 Guidance and Investor Call Recap," Capital One Securities, March 1, 2016, FIAM-ANAD-008678, at 8678.

[31] "Targeting $700MM to $1.5B in Add'l Asset Sales, Building Liquidity into 2H16," Johnson Rice & Company, March 2, 2016.

[32] Specifically, I searched the Lexis-Nexis and Factiva databases for news articles with "Anadarko" in the headline and lead paragraph.

[33] "Anadarko Petroleum (APC) Stock Surges, Slashes Capital Budget by Half," *TheStreet.com*, March 1, 2016 (1:16 PM).

trading higher by nearly 5 percent Tuesday afternoon after the company announced its 2016 capital program."[34]

12. Given the above, I find that the information disclosed about Shenandoah on these dates appears to be stale, unrelated to Shenandoah, and/or other factors contributed to Anadarko's stock price increases on these dates (i.e., confounding information).

[34] "Investors Are Bullish On Anadarko Petroleum Following 2016 Capital Program," *Benzinga*, March 1, 2016 (7:53 PM).